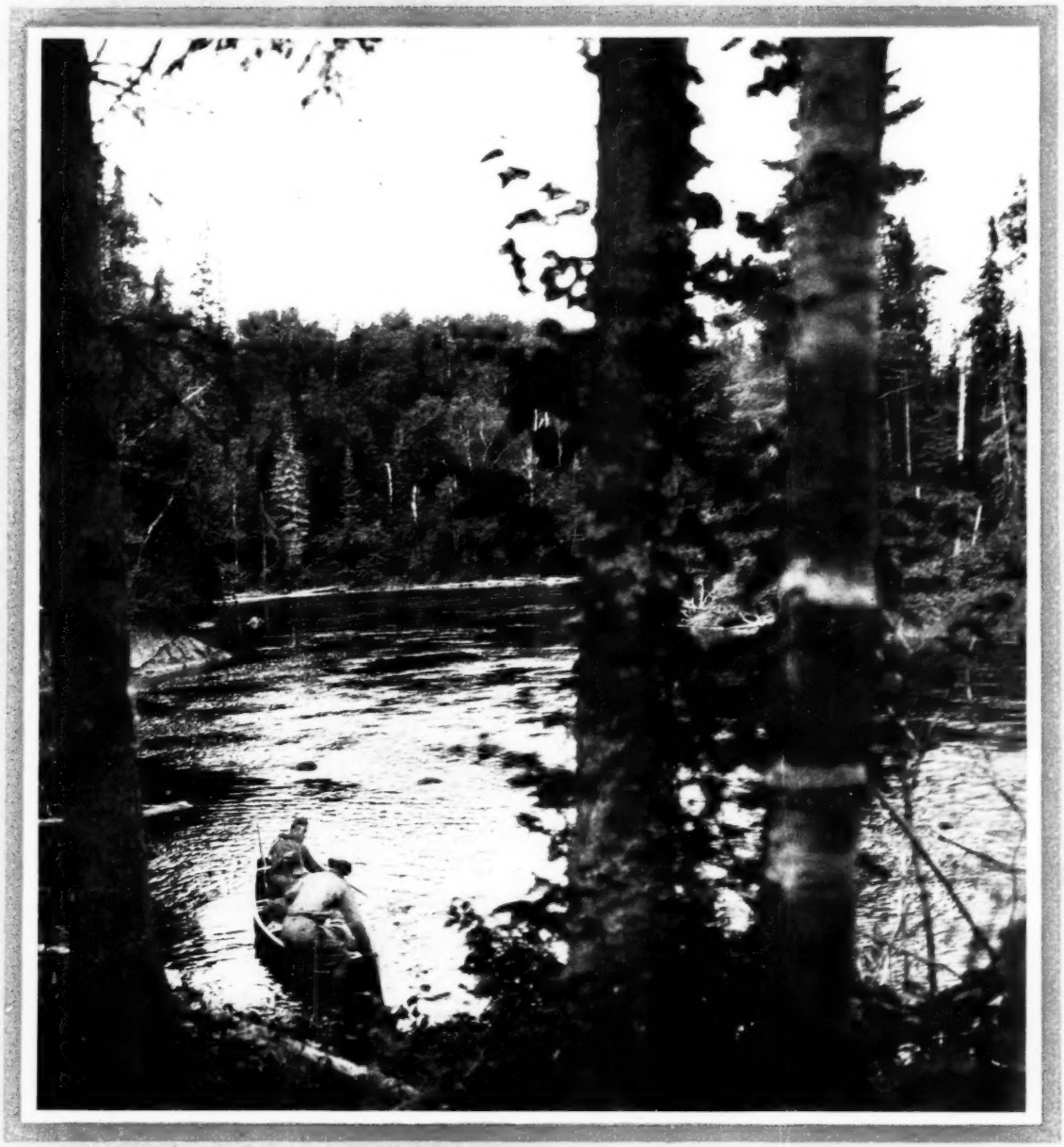
The AMERICAN RIFLEMAN



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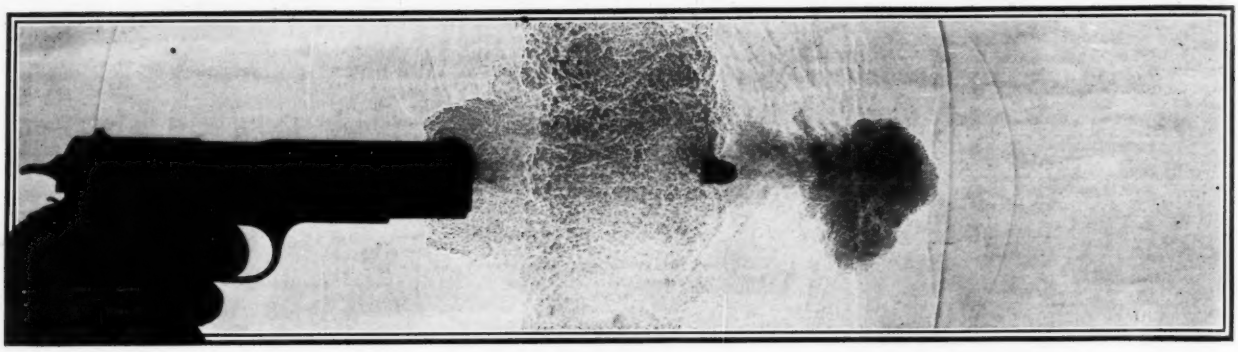

Spark Photograph of a .45-caliber Automatic Pistol just after the bullet has left the muzzle.

It should be noted that, although the slide has started back, there has as yet been no appreciable upward tilting of the muzzle.

Actually such upward tilting only occurs when the slide is arrested in its rearward motion by the receiver. However, it is evident that when this occurs the bullet is several yards down the range. In other words if you hold a bull's-eye you will get one, and no amount of so-called kick ever encountered in practice can cause you to miss.

We've Split a Second Into a Million Parts

One-millionth of a second! A fraction of time so minute that it baffles the imagination! Yet the photographs shown here were actually taken with that exposure in the Peters Physical Research Laboratory.

The 200,000-volt electric photographic apparatus producing these pictures, the only instrument of the kind in the ammunition industry, enables Peters to know ammunition performance as it has never been known before. Peters not only uses the finest of materials in making ammunition, but *sees* their justification in the results obtained.

If you are already shooting Ⓟ brand your judgment is fully sustained by these remarkable photographs. If not—begin at once and make your scores record the exact measure of your marksmanship.

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PETERS AMMUNITION

For literature and other data on the subject of rifle shooting, address: National Rifle Association, Washington, D. C.

Spark Photograph of a Peters .30-caliber M-1 Springfield bullet. It will be seen that the bullet has already outdistanced the outermost boundary of the propelling gases. Hence it is evident that the point at which these gases had a velocity sufficient to enable them to accelerate the bullet must evidently have been considerably nearer the muzzle. All acceleration has usually ceased within six inches of the muzzle.

LOVE'S LABOR LOST

LABOR DAY didn't mean anything to Bill Jenkins but Labor—with a capital L. His wife's idea of a holiday for Bill was to rouse him an hour earlier than usual so he could cut the grass, water and weed the garden, take down the screen doors and beat the rugs.

About four o'clock, the Missus went out and Bill got busy on some private labor. He had sneaked off the day before to shoot with the boys and hadn't had a chance to give his rifle a "good cleaning," so he dragged it out to the porch, together with a bunch of old rags, some dubious-looking oil, and the dilapidated ramrod that had belonged to his Dad. He worked hard and long but the job wasn't much of a success. Neither was the gun, and Bill noted dejectedly that every time he cleaned it it got worse and he had to work harder at it. He wondered mournfully if he'd be able to sneak the money for a new gun from his bigger half when this one fell to pieces.

AS ÆSOP SAID, 2600 years ago: The wise rifleman buys himself an up-to-date cleaning outfit, thereby saving himself much labor and more money in the end.

This is Fall Cleaning Time! Don't Neglect Your Gun!!

Flexifold Field Cleaners, specify .22 or .30 caliber, each	$1.00
Flexifold Pistol Cleaner, .45 caliber, each	1.00
Flexifold Shotgun Cleaner, each	1.25
Flexifold Cleaning Patches, .22, .30, or .45 caliber, per package	.25

Parker cleaning rods, celluloid-covered steel, button swivel handle with jag tip, .22 caliber, $1.80.
Parker cleaning rods, celluloid-covered steel, ball-bearing handle with jag tip, .30 caliber, $2.20; .22 caliber, $1.90.
Parker pistol rods, .22 caliber, $1.60; .38 caliber, $1.15; .45 caliber, $1.20.
.30-caliber cleaning patches, $1 per M; .22-caliber cleaning patches, 25 cents per package.

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SPECIAL FALL SALE!

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Five Winchester muskets, Model 87, chambered for shorts, each	$16 00
Five Winchester muskets, Model 87, chambered for long rifle, each	16.00
3,000 Russian 7.62-mm. primed shells, Berdan primer, per M	12.50
4,000 Russian 7.62-mm. bullets, per M	9.00
Two Lyman 48G sights for Savage, each	10.30
Five Lyman 48 receiver sights for Springfield, each	10.00
Four Winchester aperture sights for Model 52 Winchester, each	1.25

N. R. A. SERVICE COMPANY, Inc.

BARR BUILDING, 910 17th ST. N. W. **WASHINGTON, D. C.**

The AMERICAN RIFLEMAN

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SEPTEMBER, 1928

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L. J. Hathaway, *Editor*

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EDITORIAL

Keeping The Matches Up To Date

THE programs of the National Rifle Association have always been developed with a view not only to providing sportsmanlike competition, but also to act as a laboratory and proving ground for the development of rifles and ammunition. Probably no factor has been so important in the development of the United States Army rifle and ammunition to its present point of marked superiority in accuracy over the military rifles of foreign nations as have the National Matches. Much the same is true in the case of the remarkable improvements which have been made in the .22-caliber Long Rifle field since 1919. It was in line with this proving-ground idea that the Chemical Warfare Match was added to the N. R. A. Program at Camp Perry some years ago. This match for the first time brought into the spotlight the possibility of accurate rifle fire by men wearing gas-defense equipment. It was with the same idea that the change was made last year in .22-caliber gallery and outdoor small-bore targets, reducing the size of the 10-ring at ranges under 100 yards. More recently the N. R. A. 200-yard small-bore rifle target was radically changed, in recognition of the improved accuracy of the .22-caliber Long Rifle cartridge at the 200-yard range and as a stimulus to still further development of the accuracy possibilities of this rifle and cartridge.

In the .30-caliber events this year competitors at the National Matches will encounter a further innovation. There has been added to the program a match for the light Browning rifle to be fired as a semi-automatic. Military authorities are generally agreed that the semi-automatic shoulder rifle is the arm of the soldier of the future. Much work remains to be done in the development of a satisfactory arm of this type. The experience derived in such a laboratory as the National Matches will be of considerable assistance in this development work. By the addition of this match to its program the N. R. A. has again indicated its desire to aid the Army and arms manufacturers in the development of more modern, more accurate, better stocked and more generally satisfactory weapons. As the trend toward semi-automatic rifles becomes more pronounced, additional matches of this type may be expected to be added to the N. R. A. Program.

It is probable that machine-gun matches will also be added to the National Match Program in the near future. The inclusion of matches for weapons of this type of course means a considerably increased expenditure of ammunition at the National Matches, and just how far the N. R. A. is able to go in adding such events will depend to no small extent on the amount of money which the Director of the Budget is willing to see expended for the ammunition allowance at Camp Perry. With the degree of co-operation now existent between various officers in the War Department charged with the National Matches and the promotion of small-arms practice, and Headquarters of the National Rifle Association, competitors may confidently look forward to many interesting and progressive developments in the N. R. A. programs of the next few years.

The Cat Comes Back

THE following newspaper item appeared in a number of papers under dates of July 20 and 21:

BUYERS OF FIREARMS CLUTTER UP MAIL ROOM

NEW YORK, JULY 20.—Dissatisfied mail-order customers have filled the main post office on Eighth Avenue with more than 150 automatic pistols, other firearms and ammunition, postal inspectors announced today, while they awaited an opinion from Washington on how to dispose of the weapons.

The firearms were purchased by mail-order customers who, *on becoming dissatisfied with their purchases*, returned their buys by parcel post, against the warning of the catalogues issued by the concerns.

The post office authorities announced that such goods should have been returned by express.

The reason, of course, that these guns are being held in the Post Office is because pistols and revolvers are forbidden to be transported through the mails. The important point in so far as the shooting fraternity is concerned is not that the pistols are being held by the Post Office Department, but that the return of so many useless guns through the forbidden medium of parcel post in a comparatively short period of time must indicate the return of a very much larger total number of pieces of junk to the junk importers and distributors who make their headquarters in New York City. This is a most encouraging sign. One of the principal thorns in the side of the legitimate retailer and the honest shooter has been the flood of cheap foreign guns distributed indiscriminately by so-called importers and dealers to "snow-eaters," morons, imbeciles and juveniles throughout the United States.

The laws of economics and the unwritten laws of humankind in general can not long be flouted, and it begins to appear as though the highly undesirable trade which has flourished for several years in the home town of the notorious Sullivan Law may be at last suffering a setback which it is to be hoped will be continued until the whole undesirable mess has been cleaned up through the only medium which importers and dealers of this type can understand—the medium of financial losses.

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Gun-Lover's Disease

Extracted From Wesler's "Practice of Medicine," With Glossary of Terms

By Wm. H. Braddock, M. D.

Definition

A GENERAL infection due to two symbiotic rod-shaped parasitic organisms—one, long and with a paddle-shaped thickening at one end; the other very short and straight, found singly or in rows. It is characterized by a tendency to chronicity, and by a preference for shooting over all forms of work, and in extreme cases, over eating. Synonyms: gunbuggery, shooteritis, shooter's folly; French, folie de fusil; Gereman, schuetzenfieber, guncrankheit.

History

The first known case was described in 1201 by the Arab physician ben Ghazes. Following this initial case, the disease appears to have spread into Europe with considerable rapidity and thence throughout the world.

Somewhat similar diseases have been known from prehistoric times. Evidence of their existence is found among the very earliest relics of human life upon this planet. One of them appears to have been practically identical with Bownarrer disease, which is found today among the remotest and most savage tribes, as in New Guinea, and very rarely, among civilized people.

Etiology

General prevalence: Today the disease exists in endemic form throughout the known world, wherever human life can exist. Neither climate, geography nor season appears to affect it. It is found equally below the surface of the sea, and above the highest Alps; on the Equator and at the Poles; in the dead of winter, in the heat of the hottest summer, and in the moderate seasons. It was formerly believed that the disease was more prevalent in the spring and fall, but the admirable researches of J. Gish have demonstrated that this impression is due to the greater outdoor activity of the victims during those seasons, and that the disease itself rages equally in all seasons. It was formerly more prevalent in the country, in the great open spaces; but during the last few years it has spread rapidly in urban districts, where the per capita proportion of cases today equals or exceeds, in this country at least, that of the rural districts.

Sex: Males are undoubtedly more subject than females, but it is unsafe to dogmatize upon this point, as the number of female cases has been increasing by geometrical progression during recent years.

Age: No age is exempt. Numerous authentic cases during infancy have been reported, the earliest in a boy of six weeks, by O. Gosh, while cases in senile centenarians are fairly common.

Race: No race is immune to the disease, for although authentic cases are rare among the lazier, malaria-ridden people of the tropics, they have been reported; and while statistics seem to show that the Caucasian races are more subject, these must be regarded with suspicion. It has been said, most excellently, that "there are lies, damn lies, and statistics."

Economic condition: The researches of J. Gish, above mentioned, have shown that this has little, if any, bearing on the disease, for although cases of multiple infestation are more common among the well-to-do, yet cases of single or double infestation, found often among the comparatively poor, are very commonly much more virulent.

Immunity: One attack usually lasts a lifetime, but not all persons exposed to the infection take the disease. It is certainly more common in some families, and possibly in some races, than in others. There is fairly good evidence that there is a hereditary predisposition without which the specific parasite is harmless. A. H. Tush advances the interesting theory, adducing some evidence in support, that this predisposition is identical with that noted in other diseases, such as Bownarrer disease, hunteritis and others. A relative immunity is established in the individual, in most cases, when it has existed for some time.

The Parasites: These are of two species, which exist in close symbiosis, either without the other seeming to be comparatively innocuous. Both are macroscopic, being easily visible to the naked eye, and multiple strains of each have been identified. Species I, the more important of the two, is a long, rod-shaped organism, which has been demonstrated to be in reality a tube, with an enteric canal; one end presents a large, eccentric, paddle-shaped caudate thickening. There is also a variant form of this organism, much shorter and more virulent, in which the caudate thickening is curved, or set at an angle. Species II is a short, thick, rod-like organism, found singly, or in rows of three or more. The shorter rows are known as "clips," the longer as "bandoliers." The species is a common, constant and indispensable factor, being found in all cases, whether one or more specimens of the species I are found. Differences in cases are ascribed to the different numbers and types of species I present in the individual.

Modes of conveyance: These are not yet entirely understood, for while it is well established that it is transmissible with much facility by direct contact, it being sufficient for a susceptible person to come into a room where the parasites are present, yet it has been demonstrated that there are other modes of transmission, not so well understood. For example, it has often been observed that for one case to develop in a community is the signal for numerous others to develop, in persons who have had no demonstrable contact, direct or indirect, with the original focus.

Pathology (Morbid Anatomy)

Gun-lover's disease itself has no special pathological changes. Further, its victims appear to be less subject to other disease changes, particularly those of tuberculosis and senility, than other people.

Symptomatology

The period of incubation is very variable. P. Ish reports one case that showed marked symptoms within fifteen minutes after the first exposure, while T. Ush reports three cases in young men, in whom symptoms did not appear until they were earning their own money, although exposure had taken place when they were small boys. The

onset is rarely abrupt. In over 50 per cent of cases the patient first shows interest in, and curiosity concerning, the parasites. Later he will acquire one, and sit fondling it, and crooning to it, by the hour. He then takes to haunting places where other victims congregate; together, they emit noises somewhat like the explosion of fire-crackers, and run back and forth, uttering loud cheers, or showing signs of the deepest disgust. His conversation, whatever his former abilities may have been, becomes limited, so that he sits dumb and uninterested, unless the subject dearest to his heart is touched upon. He thereupon awakes, betrays animation, and converses fluently and well, opposing the introduction of any other topic; and relapsing into silence and torpidity when his efforts fail. As the disease progresses the patient first forgets to go to work, and will indicate unmistakably a preference for shooting as against any other vocation or avocation whatsoever. He will next forget to come home for meals. And finally, in extreme cases, he will forget to go to bed, sitting up and playing with the parasites, or conversing about them, until he falls unconscious from exhaustion.

Physical examination will usually reveal a well-developed, well-set-up body, with the special senses in good condition; taken altogether, the patient is usually in rather better condition than the average. More may usually be learned by studying the patient's home, and the condition of his family. While these will almost always show marked signs of financial stringency, they will invariably present evidence of a cheerful, pleasant disposition, and of a happy home life.

Varieties: These are so numerous that the student is referred to special textbooks upon the subject. There is room here only for mention of the two main varieties, that caused by the long form of the first species, and that due to the short, curved or angular form, which is more virulent. The matter is of the less importance, as the symptoms are practically identical, save for the different degree of severity, and the diagnosis rests upon finding and identifying the parasites.

Complications: Aside from the financial stringency above mentioned, there are not many. Hunteritis is not uncommon; occasionally collector's fever is encountered. Others are extremely rare. Multiple infestation, however, is common, both of the simple type, with two or more parasites of one strain of Species I, and of the mixed type, with almost any combination of numbers and strains. This disease seems to furnish an immunity against all others, as the open-air life led by the victims protects against all the usual diseases, such as tuberculosis; various heart and other allied troubles; pool, both table and cow pasture; golfitis, both walking and kneeling (praying or African) varieties; carditis (all varieties except the comparatively harmless poker); and many others.

Differential Diagnosis

There is no pathognomonic sign whereby this disease may be identified; and yet the picture, once seen, is easily recognized.

From golfitis this disease is usually easily differentiated; from the regular form it may be distinguished by the cheerful and contented family, as opposed to the nervous, apprehensive condition the golfer produces in his family by his insistence or recounting each detail of the afternoon's occurrence.

From the African variety, with which it may be confused at first sight by the baby's chronic need for new shoes, it is readily distinguishable by physical examination, inspection of the skin revealing a ruddy, healthy condition, as compared with the sallow, unhealthy skin of the African golfer.

From hunting fever the diagnosis is sometimes not easy, often being made more difficult by coexistence of the two diseases. In this disease, the patient is happy anywhere, with his parasite, while hunteritis compels its victims to distant and somewhat aimless wandering. Observation of the patient at the end of a hard day, however, will usually settle the diagnosis beyond doubt, as the pure case of hunteritis will treat the parasite to a dose of oil, or even throw it into the corner dry, and go to bed, while your true gun-bug will sit up, fondling the parasite and muttering words of endearment to it, until he falls asleep from exhaustion. The picture thus presented is truly a pitiable one.

From collecting fever also the diagnosis is often rather difficult. The collector, however, is prone to acquire dead parasites, while the gun-bug insists upon living and actively functioning ones. Further, there is much the same contrast in skins here as was noted in the case of African golfitis.

Prognosis

No authentic case of death or disablement from true, confirmed shooteritis has ever been reported. A good many have occurred in non-immunes who came in contact with the parasites, especially in the absence of the owners; but the vast majority of such occurrences have been due to hunting fever in immature persons, not yet dry behind the ears, or else are to be ascribed, simply and sufficiently, to the Fool-Killer.

As to recovery, the prospect is less happy. No authentic case of complete recovery has ever been reported, but in course of time, as before mentioned, the patient develops a partial immunity which enables him to control the disease quite acceptably the majority of the time.

Treatment

Is unsatisfactory. Nothing is known that will produce a cure. Depletion of the pocketbook, while not easy to control and cause to flow in the most desirable direction, is the most effective means. The effect, however, is only temporary. Surgical treatment has been tried, but the result was unsatisfactory. Patients of scrupulous character usually pined away and died, while the unscrupulous were invariably found in a reinfected condition very shortly after the operation. The most successful treatment thus far found has been to allow the disease to pursue its course, and set up the relative individual immunity before mentioned.

Glossary

Symbiosis.—Living together, like ham and eggs.

Etiology.—Cause why.

Caudate.—Tail-y.

Pathology.—Disease changes found when you cut open the body.

Prognosis.—When you start prophesying about it; usually wrong.

Diagnosis.—Guessing what is the matter.

Pathognomonic.—Sure proof.

BULLETIN OF THE NUNNEMACHER COLLECTION OF PROJECTILE ARMS

The Rudolph J. Nunnemacher Collection of Projectile Arms was bequeathed to the Milwaukee Public Museum on the death of Mr. Nunnemacher, which occurred January 29, 1900. The original collection at that time was valued at $100,000. The original bequest was accompanied by a fund for additions, and several additional bequests have been received from the Nunnemacher family. A very important addition to the collection was the collection of Mr. W. A. Lawrence, the result of many years of specialized collecting, particularly in American arms. Also through Mr. V. A. Lamson, an assiduous collector, many gaps in various series were filled. In this manner the collection has grown until today it is the most complete and most perfectly arranged collection of small arms in the world.

The careful study and labeling of this collection, and the preparation of a catalogue were entrusted to Dr. John Metschl of the Museum. Dr. Metschl toiled on this work for three full years. It was a most arduous task, involving stupendous historical research, going back even to the time of the Romans, and he should receive the greatest credit for this splendid work. Then Dr. Metschl received an offer for work elsewhere, which he could not afford to decline, and the work of completing the arrangement of the collection, and of the preparation of the catalogue, which is termed the "Bulletin," was turned over to Dr. Paul B. Jenkins, well known to all readers of The American Rifleman, as one of our foremost firearms experts who has for twenty years specialized particularly on the historical side of small arms. Dr. Jenkins' individual part of the work has been the editing of the whole Bulletin from the historical point of view, all textual discussions and historical essay portions, all the Appendixes and the Index. Dr. Jenkins was probably better equipped for such work than any other living man. For years he has been a deep student of arms and military matters, and is one of our leading American historians. He has spared no pains or trouble in his research, even to the extent of visiting Europe on several occasions, on one of which he made a special study of the work of the Rev. Alexander John Forsyth, the inventor of the percussion lock, involving a visit to the

(Continued on page 11)

Snap-Shootin'—The Practical Game

By KENNETH FULLER LEE

IF YOU are a shootin' specialist, now is the time to stop reading this article, for it is not written for those of your clan. I sympathize with you, can understand your attitude and realize fully the crying need for more of your kind if the U. S. A. is to rank high among the nations in the specialized forms of shooting. My message, however, is not aimed at the serious-minded cuss whose principal ambition in life is to bust a hundred straight, make a possible on the International Target, or create a new pistol record. I hope he does it; but at present I am not talking to him at all.

Probably it is safe to assume that 90 per cent of the shooters who purchase guns of one kind or another, do so with the intention of some time trying their weapons out on game—furred or feathered. The ranks of this majority gain new recruits by the thousand every year, and each and every one of the rookies is faced with an identical problem—i. e. What is the best form of practice to take up as a preliminary to actual game shooting?

Target-shooters will invariably answer that the black-and-white bull's-eye solves the problem. But does it? In fifteen or sixteen years of rather intensive hunting I have met hundreds of excellent target shots who were rather worse than rotten on moving game—men who could get comfortably settled in the prone position and punch one round hole in a standard bull'e-eye, but were totally incapable of landing on a running deer or a flying bird in spite of their annual expenditure of thousands of rounds of perfectly good ammunition.

I am a "nut" on the subject of shooting, and might as well admit it at the outset. During the past sixteen years it has been my good fortune to own, briefly in most instances, upward of fifty assorted rifles, shotguns, revolvers and auto. and target pistols, representing nearly every one of the modern American makers of firearms and in a great many different calibers.

It goes without saying that each of these guns came in for considerable use; but irrespective of the type of arm, whether it was rifle, shotgun or pistol, most of the work done with it was snap shooting at flying targets, the one form of shooting which appeals to me as being practical from the point of view of a hunter.

The cartridges which I have fired at flying tin cans, blocks of wood, snowballs in season, pennies, empty shells, etc., if placed end to end would, I firmly believe, reach from Augusta, Me., to Augusta, Ga. Thanks to a couple of benevolent ammunition concerns, I did not have to pay for anywhere near all of them.

Kids in my neighborhood wore out their arms tossing such small objects as were needed for practice of this sort, and one or two of them at length became so proficient at this that their parents protested their inability to round up their offspring at mealtimes.

Possessed with a sort of mania to see just how far one can carry this game, I stayed with it until I was at length able to make straight runs of fifteen or more on common moth balls with a .22 autoloading Remington, hit empty .22 shells and C. C. pills fairly regularly and run as high as nine hits on a tomato can at a single toss with the same weapon.

With the pistol, it became possible to break snowballs or potatoes two at a time with the Colt's .22 auto., smash blocks of wood and bottles with the .45 Government

drawn from the holster after tossing the target and register frequent hits on washers and pennies with the .38 Special Colt or Smith & Wesson.

With the 20-gauge Remington slide action it was easy to crack up three moth balls thrown together with three fast shots, pulverize three clay birds nested and thrown by hand or jack out an empty shell from the action of the gun and drive it spinning with the following shot. To do this, however, it is necessary for the shooter to be standing on a raised platform.

My wife is as crazy as I am—fortunately for us both—and we made our shooting pay for itself by frequently giving short exhibitions at fairs, outdoor entertainments and occasional indoor gatherings. For this work we have been paid up to $50 for an hour of good fun.

Now for the practical side of all this. We do not confine our shooting to inanimate targets by any means, and on long trips into excellent hunting country we have found that the results of our practice in snap shooting are very much worth while.

In the first place, we are both capable of doing excellent shotgun-style shooting with not only the shotgun, but with the rifle and pistol also. I do not mean by this that we could go out to the country club and, using the rifle, break a good score on regulation clay biddies from the 16 yard line. What I *do* mean is that when hunting under ordinary conditions, using either rifle or pistol, we take shots at game that would not ordinarily be tried except with the shotgun, and not infrequently connect.

For example, we were coming downstream in a canoe last fall, following the winding Allegash through a big marsh just above Umsaskis Lake. The Mrs. had the bow paddle, and I was handling the stern. Beside me was a little Savage .22 Hi-Power belonging to a neighbor. We rounded a turn in the stream, and a flock of seven Canada geese jumped out of the rushes 50 yards away and started to climb directly into the wind, which was blowing straight off the lake. They were handicapped somewhat by the force of the wind, and honked tremendously as they did their utmost to get out of range.

Swinging the canoe sidewise, so that the muzzle blast of the rifle would not ruin the Missus, I went into action. The geese loomed large at that distance—it was a simple matter to snap my front sight onto the big gander in the lead, slam the lever and swing onto the second in line and lift feathers from a third goose before they were too far out for a fourth shot. Those two big geese were excellent eating, the small, metal-patched bullets from the .22 not injuring the meat in the least; and I was not a little pleased at my success in "trimming them up" in full flight with the rifle.

Later in the fall we were headed for Long Lake one fine afternoon with the Johnson outboard motor kicking the canoe along at a fast pace. As we were coming from the thoroughfare out into the head of Long Lake, a flock of Black Duck got up, far off to the right, and skittered along the surface, headed down the lake. With the motor still running, I picked up the little '06 Winchester .22 beside my leg. and commenced throwing the lead at those ducks. which were fully 200 yards away and getting swiftly more distant. By watching the spray from the bullets it was possible to correct the lead, and my third or fourth shot sent a big black fellow splashing back into the water with a broken wing. We went over and finished him with a shot at close range—and had Black Mallard for dinner next day.

I have killed a running buck with a shot from the Colt's .45 auto. pistol, a running fox with the Winchester .22, rabbits ahead of a dog with the .22, and even woodcock over a pointer with the Remington .22 automatic. This last statement will no doubt be met by disbelief by many, but it is a fact, and in case proof is required I will be glad to duplicate the stunt in the presence of witnesses. To my mind, the woodcock is not a very difficult target for even a fair shot, provided one catches him *at the top* of the first rise, before he gets straightened out and under way. A 410 double is my ideal gun for this work, but even with this tiny weapon I spoil a lot of close birds.

Probably the above sounds like a lot of applesauce to many shooters. But consider the preliminary training—years and years of almost constant shooting, and nearly all of it of the snap-shootin' sort. I do not claim any credit for being able to hit moving targets—any ability I may possess is simply the outcome of a *lot* of shooting—and I mean just that.

Once learned, snap shooting gives its devotee the ability to perform well with all types of arms. Sights do not figure to any great extent in this work, nor even superlative accuracy of barrel. Almost any rusty old rifle or pistol, with plain iron sights, will do fairly good work on thrown or tossed targets at relatively close range. One of my favorite stunts is to pick up a dozen assorted hunting rifles, belonging to as many different hunters, and stage a shooting exhibition with them just as they come. I have frequently made straight runs of twenty or more hits on tin cans and bottles, using assorted guns in this manner, regardless of sights, calibers or anything else.

The ability to "throw onto" a moving mark, once it is well learned, can be applied to all forms of firearms; and, as I have lately learned, to the bow and arrow as well. One learns to gauge the speed of the thrown target, automatically judge the lead required, and "pull" at the timed moment for the best results.

The recoil of even the heaviest pistol does not affect the point of impact on flying marks, and after a sufficient amount of practice one learns to dispense with the conscious use of the rear sight—merely holding under the target to allow for the "rise," which results from neglecting the rear sight.

In our exhibition work we have had to do a lot of shooting on "held targets" such as playing cards, Necco wafers, matches and cigarettes held in the mouth. Splitting the cards and shooting out the spots on them is interesting and popular with spectators, while breaking the candy wafers held in the fingers calls for steady nerves and close holding. Once or twice we have come close to an accident through no fault. One night three years ago Mrs. Lee and I were giving an exhibition in the main dining room of the Congress Square Hotel in Portland. The occasion was a meeting of the Cumberland County Fish and Game Association, and we had brought with us our usual steel backstop for indoor shooting. This is a small box mounted on a camera tripod and painted black; lined inside with heavy steel plate. In front of this plate is a sheet of black fiber board to prevent splash from the bullets, and over the top of the backstop is mounted a shaded electric lamp to give definition to the held targets.

The backstop was set up squarely in front of a plate glass window worth several hundreds of dollars—a fine place for it, but this could not be helped. Our audience of five or six hundred keen sportsmen were grouped back of us, and we went through our routine of splitting cards, breaking glass balls, trimming the ashes off cigarettes, using the rifles upside down, and over the shoulder with mirrors; shooting with the front sight covered up; breaking two targets at once; and the usual line of indoor stuff commonly demonstrated. To close the act, I took a small bit of chalk, about an inch long, and stood it up on the crystal of my wrist watch. Mrs. Lee was possibly 20 feet away, and I rolled back the sleeve of my Tuxedo and held out my arm with the bit of chalk in front of the backstop. With the crack of the tiny rifle I felt a sharp blow, and heard the tinkle of glass as the crystal of the watch disintegrated. Feeling sure that the bullet had struck the watch, I carelessly dropped the sleeve of the Tuxedo back into place and we went off, to a burst of very generous applause. Back in our room, the Missus rushed over to me and rolled up my sleeve. "Did I hit you—I heard that glass break?" she exclaimed. We both looked, and found that the face and hands of the watch were intact. The only explanation I can give of this lies in the probability that I slightly canted the watch toward Mrs. Lee's rifle. The bullet must have struck fairly on top of the chalk, which was hard enough to carry the force of the blow to the glass, breaking it.

But this affair of using held targets is not for the tyro, as I will demonstrate. Following one of our exhibitions, two young men came forward and asked permission to put on a stunt of their own. When they explained its nature, I refused to allow them to try it. They proposed to shoot a Necco wafer held in the mouth of one of them, using a mirror for the sighting, and their rifle was an old Stevens Marksman model which originally cost less than $5, and had no more sights on it than a crowbar. Finally, after they had accused us of professional jealousy and other ulterior motives, we allowed them to try it, disclaiming any responsibilty for the results. And they did it successfully. The crowd gave them a big hand and they went away feeling that they had accomplished something miracu-

lous, which was true in view of the type of weapon employed. But wait! Less than two weeks later I was calling on Dr. Edward Paine, of Winslow, a cousin of mine who is an excellent shot and a very ardent sportsman. He informed me that one of the two chaps who had staged this startling demonstration was in his office a few days later, shot through the lips, the bullet narrowly missing "cleaning his teeth for him." There is a limit to the things that can be done with guns, and it ought to be very carefully observed if one wishes to remain hale and hearty. Even with the latterly despised .22 it is quite possible to win a through ticket to the Hereafter, as more than one ambitious party has discovered too late.

I have been asked many, many times If there is not danger of accidents when practicing snap shooting with rifle and pistol in settled regions. This question is a natural one, for it is quite obvious that "what goes up, must come down" somewhere. However, if reasonable care is used, there appears to be very little danger. William G. ("Billy") Hill, who for many years traveled all over this country giving shooting exhibitions for the Remington Arms Co., told me that in all his shooting, on crowded fairgrounds, gatherings of sportsmen's associations, and covering a number of years, he never met anyone who had heard one of his bullets "coming down." It is important, however, that the "angle of fire" be kept *high,* preferably not less than 50 to 60 degrees for utmost safety. When this is done, the bullets go into the upper air currents and are carried to a safe distance, besides being thoroughly "spent" before they drop back to earth.

Under these conditions I do not believe that a returning bullet would have punch enough left to dent a straw hat, except in the case of a very heavy bullet, whose inertia might be great enough to cause it to do some damage. But the shot which leaves your rifle or pistol at or near the horizontal is dangerous in the extreme; so don't fire after your target falls below the 50 degree line if you would keep out of trouble.

Obviously, we can't all be exhibition shots. But those of us who wish to become really proficient with the three weapons—the rifle, revolver and shotgun—can assuredly do so more quickly by the snap-shootin' route than by any other. Game will not "stay put" long, and if you can "tuck it to 'em" on the wing or on the jump, as we say—"standin', sittin' or flyin' "—why then you are equipped to do damage, no question about it.

Start with a .22 rifle that fits you, a few boxes of cheap "shorts," and an assortment of nice big tin cans. When you get to the point where this is "duck soup," try smaller cans. Then get some small blocks of wood, then marbles, pennies, empty .22 shells.

Try it with your hunting rifle, your pistol, or anything else which you own that throws lead. Keep everlastingly at it, and eventually the time will come when you will lose interest in any kind of fixed target. When you are able to "kick" a shell out of a Model '06 Winchester .22 and drive it spinning with the next shot, you can pat yourself on the back and feel that you have at length arrived.

Believe me, when you arrive at that stage of the game it will be the part of wisdom for all wild game to "roost high" when you take to the hills, for it will be a simple matter for you to hang lead on anything big enough to hold a bullet—and it won't need to be hitched to sombody's fence, either.

I have heard a wise-cracker remark "Billy Hill may be a wonder on targets; but he's no good on game." To my own very personal knowledge that is slander and libel combined, for I remember seeing five black ducks jump ahead of Billy's sink box one fall morning at Merrymeeting Bay. Before they had time to get fairly started Billy's pump-gun was empty, and all five of those black ducks had absorbed lead enough to keep 'em down where Bill wanted 'em. It was a spectacular bit of shotgun artistry, but nothing out of the run of the day's work for William.

There is still another side to this trick of "throwing a gun," as the Westerners used to phrase it. One not only learns to virtually ignore the use of the rear sight, but it becomes possible to do excellent shooting—at close range of course—when it is too dark to even see the front end of the gun.

To demonstrate this, I frequently pick up a rifle in one hand (or a pistol for that matter), a tin can in the other, and go out into a back yard at 11 o'clock at night, usually accompanied by some supercilious cuss who firmly believes that "it can't be done." If it is possible to see the outlines of the can when it is thrown against the night sky, I can hang a bullet on it. And you know, the ability to do that little trick might come in handy some time or other.

The foregoing sounds a lot like "throwing the bull," and were it not for the fact that some thousands of Maine folks have witnessed a large part of my stunts with guns nothing could induce me to portray them in print. If any reader of this article is interested in writing to R. T. Berry, of Augusta, formerly the "Western" professional for Maine, New Hampshire and Vermont, or to J. H. Otterson, now with the du Pont Powder Co., the gentlemen will gladly verify any of the statements contained herein, except those dealing with game shot recently.

My purpose in writing this article is to stimulate interest in what is to my mind the most practical form of shooting—a game that will teach the prospective hunter what he needs to know.

LONG ROLL SOUNDS FOR ANOTHER VETERAN

Col. George J. Roskruge, veteran rifleman and N. R. A. State Secretary of Tucson, Ariz., is dead. Colonel Roskruge began to show the signs of advancing age several months ago and at that time resigned his position as N. R. A. State Secretary. He was known as the Father of Masonry in Arizona and was a thirty-third degree Mason. The leading hotel and public school in Tucson were named after him before his death.

Colonel Roskruge was born at Roskruge, Cornwall, England, in 1845, coming to this country and locating in Denver, Colo., in 1870. In company with sixteen other pioneers, he took the overland trip to Prescott, Ariz., in 1872. In 1896 he was made U. S. Surveyor General by President Cleveland, an office which he held until 1907. He first became interested in rifle shooting when he enlisted in the Duke of Cornwall's Rifle Volunteers in 1860, serving with that organization until he came to the United States. He was President of the Pacific Coast Rifle League in 1914 and Secretary-Treasurer of the Arizona State Rifle Association for many years.

The game has lost another of those sturdy fighting pioneer spirits who saw it through many years of discouragement and lack of public and Governmental interest which finally culminated in the nation-wide activities of today.

BULLETIN OF THE NUNNEMACHER COLLECTION

(Continued from page 8)

Forsyth home in Scotland. The work of both Dr. Metschl and Dr. Jenkins has been masterly, learned and accurate from both the technical and historical sides.

The Bulletin which I have before me consists of two volumes, totaling 1,016 pages, including many hundreds of most excellent illustrations. Volume I covers "Long Arms" (rifles, muskets and shotguns), and Volume II "Short Arms (pistols and revolvers). The work is very much more comprehensive than a mere catalogue. Rather it is a truthful, accurate, and complete treatise from an historical and collector's point of view of the whole progress and human endeavor in the line of projectile arms from the dawn of history to the present day. It includes a discussion of the "Origin, Purpose and Rise of Projectile Arms" (Jenkins); a complete description of small arms from the first crossbow to the Springfield rifle, with illustrations of each weapon, interspersed with textual discussions from both technical and historical points of view, covering first "long arms," and then "short arms"; Appendixes consisting of a list of arms patents, a list of American gun-makers 1630 to 1928, and a Glossary of arms terms; finally a complete Index. The Bulletin can be obtained only from the Milwaukee Public Museum, the price for the two volumes, while the limited supply lasts, being $10.

This Bulletin is absolutely essential for all those who are interested in small arms from the standpoint of the collector or the historian. It will be invaluable in the identification of old arms. It has very considerable value also to the technical student and the inventor. I am frank to say that, owning one of the best libraries on small arms in existence, I know of no book which has been printed that contains the material that is in these two volumes. All the other books, such as Sawyer and Pollard, have been quite outdone, if a comparison is fair, for the scope of this work is wider than Sawyer's and not so wide as Pollard's work. All other books contain many historical and technical errors, but I have been unable to find any in this Bulletin.

Townsend Whelen.

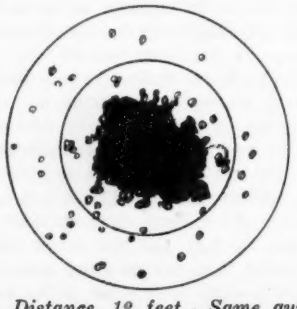
The Shot Charge In Action

By CAPT. CHAS. ASKINS

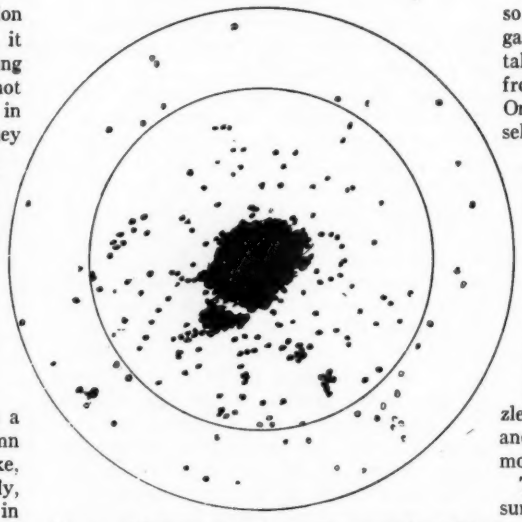
MY OWN original theory as to the action of the choke in a shotgun was that it welded the pellets together, so that they clung in a mass for a certain distance. The shot were supposed to have left the muzzle in about the same sort of body which they occupied in the shell, the column somewhat condensed laterally by the pinch of the choke. Photographs of shot in action did not support this theory, which failed to take into account shot column elongation.

Another theory, held by many gun-builders, is that the shot are simply funneled out at the muzzle, very much as water is funneled out at the nozzle of a hose, the shot being sent forth in a narrowed stream. Under this theory there is a momentary checking of the shot column when it strikes the choke. The choke, clamping down on a more or less fluid body, acts both forward and back, equally in both directions. The result is that the forward layers of the shot column—those upon which there is no pressure from in front except that due to the top wad and the air—have their velocity increased beyond the normal powder drive, leaving the muzzle at a higher velocity than they would from a cylinder, while the base of the column, its squeeze having been delivered in the opposite direction, gets out of the muzzle a trifle more slowly than it would from a cylinder bore. The result is an elongation of the shot column as it issues from the muzzle, the rear section or base of the load having a trifle less muzzle velocity than the forward part of the charge. We thus have shot-column elongation, which begins at the muzzle and increases as the shot travel, until at 120 feet the shot pattern, as it flies, is 10 feet long, with an additional tail of defective pellets.

The Williams theory accepts that of the gun-makers, at least in part, and endeavors to clear up just what happens to the shot. Mr. Williams seems to maintain that the shot column is first stripped by being jammed into the heavy cone constriction. As the shot column enters the cone—that portion of the barrel just forward of the chamber—the outer layers of the shot column are delayed and checked by contact with the walls of the cone. The center, as well as the forward portion of the column, now moves to the front; and the other pellets, delayed by cone action, are shoved to the rear. The load is now in a somewhat elongated form within the barrel, but is rearranged in a compact mass by powder drive and the resistance of top wad and air. Mr. Williams' theory assumes a movement of the shot within the column, the center crowding past the delayed outer layers. Exactly the same thing happens when the choke is struck, for again the outside layers of shot are delayed, while the center is crowded forward. The result is that nearly all the good pellets—those that have not been injured by either cone pinch or choke action—now issue from the muzzle first, leaving the injured pellets at the base, from which position they continue to fall farther and farther behind. According to Williams all the pellets shot from a full-choked gun are injured by the bore, the injury being merely a question of degree.



No. 1. Distance, 12 feet. Same gun and load as other targets. All base wads went through the hole. Cut is exactly half size

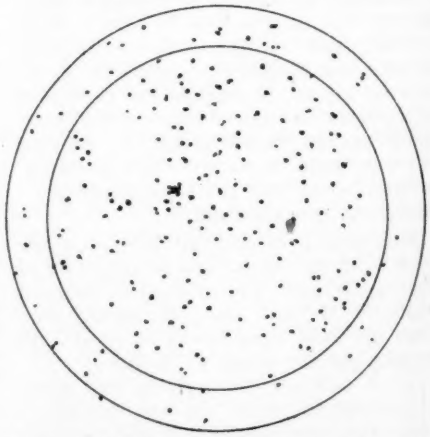


No. 2. Distance, 24 feet. Cut exactly half size. Same load and gun as Nos. 3 and 4. Base shot wad helped to make the hole in center. Pellets estimated in the inner 4-inch ring, 250. Total pellets in charge, 300

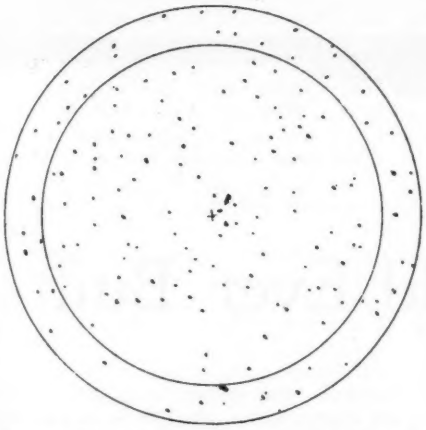
A third theory in regard to choke bore patterns has to do with the action of the gas blast. According to this theory, the gas which, unchecked, would have a velocity in excess of the shot velocity, when suddenly freed from the barrel and from it's work of driving the shot, therefore drives in among the shot and scatters the pellets widely. This is what happens when the gun is cylinder bored. With the choke, according to the gas-blast theory, the constriction has the effect of momentarily holding up the wadding, allowing the shot to issue in advance of the wadding and the gas back of it. The shot then get so far in advance of the wadding and the gas blast that they can no longer be overtaken, and hence we get full-choked patterns from a gun properly narrowed at the muzzle. Only a time-tried theorist could persuade himself that the powerful powder drive could be held in check by wadding, after such wadding has been released from the weight of the shot. According to the gas-blast people, if the wadding were not held in check by the choke it would drive right through the shot column pretty often, and thus give us cart-wheel patterns. Gas-blast action has been accepted by many, and attempts have been made with both rifles and shotguns to relieve gas pressure by holes and slots near the muzzle. Nothing has come of such attempts, and the whole gas-blast theory is about the most silly of any that has been advanced.

The Sweeley theory is that shot under pressure have a tendency to fly outward. All the way up the barrel the shot has a positive tendency outward, as witness the grind of the outward layers against the bore. Escaping from the muzzle with the outward tendency in full force, no longer restrained by the barrel walls, the shot do fly outward. This is what happens with a cylinder gun. The action of the choke constriction then is to neutralize this outward tendency, and the pellets leave the muzzle with but one movement in force—that straight forward. The pellets would therefore continue forward in line with the bore except for such action as the air exerts in driving them apart, with the additional spread due to pellet deformation and the inability of injured shot to fly straight.

Under the Sweeley theory, since the choke can neutralize only so much out thrust, and the lateral tendency is dependent upon pressures and the speed with which the shot column is hustled through the barrel, patterns in their width, density, evenness, as well as in



No. 3. Distance, 48 feet. Cut one-fourth actual size. Load, 7/8 oz. No. 7 shot; 20-gauge, full choke. Pellets in the inner circle, 200



No. 4. Distance, 96 feet. Cut exactly one-eighth actual size. Twenty bore; ⅞ oz. of 7½ shot. Pellets in the 16-inch inner circle, 125

other respects, must vary as breech pressure and muzzle velocity vary. Only one load at a given pressure at a certain velocity can exactly fit the choke action. Any load other than this one will show inferior results. The load that fits the choke action in its powder-burning time, in its length of shot column, in its pressure at breech and muzzle, and in the velocity with which the shot strike the choke, Sweeley terms a "balanced load," meaning a load that has been balanced against bore and choke. It follows that he takes a lot of pains in his cartridge-making to balance his load, a proceeding not greatly different from fitting a load to the gun.

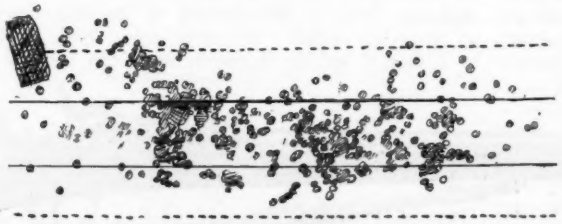
Now to sum up, Askins concluded a long time ago, even if he doesn't believe it now, that shot were welded together by the choke; that the bulk of them clung together and could not scatter for a certain distance; that the separate pellets could not at once set up a rotary action of their own and therefore one pellet in its rotation disturb another by contact or by breaking away from contact—all of which could happen with a cylinder.

The funneling theory is dependent upon the fluidity of the shot, which furthers column compression and column elongation. Undoubtedly there is shot-column elongation, caused primarily by the choke. Under this theory the degree of choke is dependent upon fluidity of the shot and the degree of compression which the pellets will permit without taking a permanent set. Given too much choke, the shot will not be sent forth in a long, loosely bound together column, but in broken masses some of which may reach the target in the shape of balled shot, and some of which may break up explosively, through rotation of the mass. If a mass of partly welded shot assumes anything like the shape of a ball, it will begin to rotate like a round bullet, and as successive pellets break away from the mass they will be sent off at a tangent thus appearing on the pattern plate as if the shot column had exploded, or burst apart.

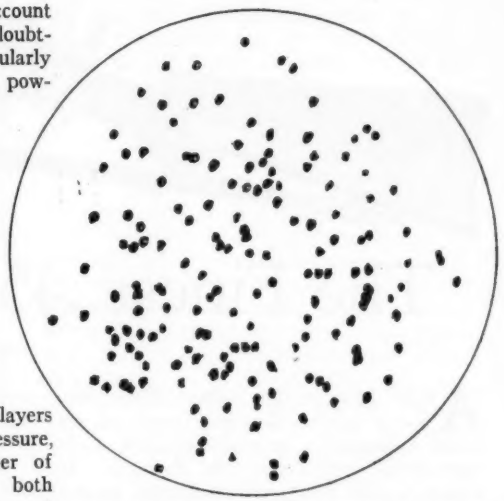
Williams' theory differs from the others mostly in that he takes into account the action of the cone. The cone undoubtedly has its effect upon patterns, particularly where the shot column is long and the powder charge heavy. This has been proven time and again. Where a gun has a sharp cone constriction nothing is required other than to bore out that cone, leaving barrel diameter and choke unaltered, and load exactly the same, to obtain patterns which will differ radically from those once obtained from that barrel.

Sweeley's theory requires little further elucidation. His ideas are very attractive as well as logical. The theory fails to explain everything. For example, Sweeley says that the outer layers of shot in the column get the most pressure, while those pellets lying in the center of the column, getting pressure from both sides, should be in a quiescent state, not having a tendency outward in any direction; therefore these should be found in the center of the pattern. The writer tried loading a narrow column of No. 4's in the center of a charge of 7's, wishing to see if the 4's would stay anywhere around the center. They did not, but scattered all over the pattern. Sweeley says that shot pressures are so heavy that shot can not move about, but remain in precisely the same contact throughout the barrel that they had when they emerged from the shell. Williams holds a contrary opinion—that shot do change positions in the column, and he tells us this is done by cone and choke strip. Thus a pellet which was loaded at the side of the outside of the shot column might be stripped from its position, and sent to the base, while another pellet from the center would move up and outward to take its place on the outside. Since this stripping action takes place both in the cone and in the choke, the result might be a radical change in positions by many pellets, and perhaps every shot would emerge from the muzzle in a position different from that which it occupied in the loaded shell.

I tried loading all big shot on one side of the case and all small shot on the other side. They reached the target all mixed up. However, when I put in a dividing partition of stiff cardboard, so that the pellets could not become greatly mixed within the barrel, the division was very fairly and sometimes sharply shown on the pattern plate. I reasoned that the line of demarcation between the two



No. 5. Drawn from photograph taken six feet from the gun; 12-gauge; load, 3 drams, and 1¼ oz. No. 7½ shot. Cut is exactly half size of the shot charge at instant of photographing. Solid lines show diameter of barrel. Dotted lines show spread beyond bore diameter



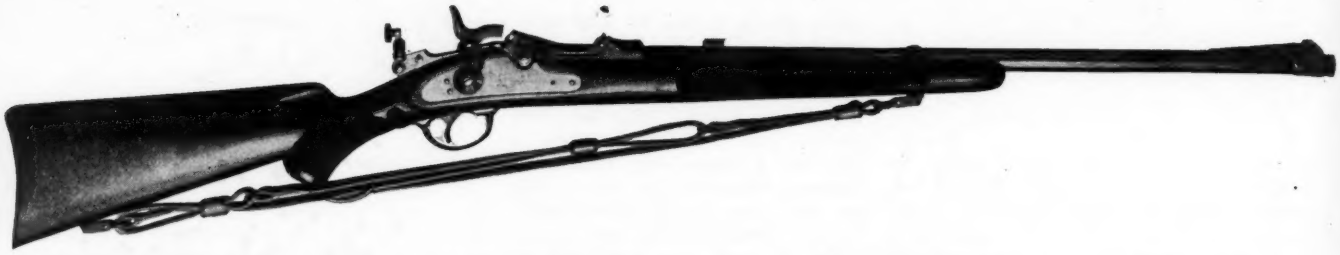
No. 6. Sweeley load. Metal wad, shot mould, 4 drams De Luxe powder, 1¼ oz. No. 4 shot. Distance, 24 feet. Shot from Winchester automatic shotgun. The cut is just half size

sizes would in all instances have been plainly indicated except for shot column elongation within the barrel, caused by the cone, and at the muzzle due to the choke. If the shot column were elongated beyond the length of the card divisional wall or partition, some of the pellets might then pass over from one side to the other. All of this rather supports the Williams theories.

The mixing of the shot when they were not separated into two longitudinal sections, and their failure to become mixed in like degree when they were so separated might be explained in a way other than by assuming mixing within the barrel. If the shot are funneled out into a column of small masses, each of these slightly welded and clinging together, such masses might fully rotate before breaking up or they might simply wobble, bringing first one side of such mass on top with shot breaking away from it, and then the other. Shot which were loaded on the right side might be turned by this rotation and break away from the mass on the left side or anywhere else. If, on the other hand, there was a divisional longitudinal partition, there would be little or no funneling out of the load in masses or in the manner of a choked gun, for such partition acts as a shot spreader, no choke bore patterns ever being obtained when such partition is in place; and therefore the shot would quickly break away to the sides the same as from a cylinder bore.

It has been pretty well established that without shot-column elongation there can be no choke-bore narrowness of pattern. The longer and narrower the shot column as it emerges from the muzzle, the narrower the pattern on the plate. If heavy wads are placed on top of the shot, thus preventing shot-column elongation to a degree, patterns will be spread to just that degree. Under the

(Continued on page 15)



The Finest .45-70 Springfield Ever Built

By PAUL B. JENKINS

AWAY back in the 'eighties Uncle Sam issued to the National Guard of the State of Missouri a lot of Model 1884 .45-70 Springfields fresh from the arsenals. In course of time these were superseded in turn by the Krags and passed into the storerooms of the State Armory. About twenty years ago it was decided that these guns were officially obsolete, and during a house-cleaning period under a certain administration they were gotten rid of and passed into private hands. One, being found to be in surprisingly good condition, passed into the writer's collection. As we shot the gun now and then and found it excellently accurate after some forty years of existence, we have had the germ of an idea in mind that some day we would use it to find out how well these veteran arms could be adapted to modern ideas of what constitutes a high-grade rifle.

Then about a year ago some one showed, in one of the sportsmen's magazines, a picture of what he had done with one of these guns, shortening it and making it like a short, full-stocked carbine—a handy gun. We happened to remark that we believed we would do something of the sort with ours, when our good friend Clyde Baker—that Kansas City gun-wizard, of whom every rifleman will hear more—said: "Hold on! That's a good gun of yours. Let's do a real, modern, up-to-date piece of work on it. Let me have it for a few weeks; give me time on it; let me have the dimensions of some gunstock which you believe fits you the best of any you have ever tried; then forget about it till you see the gun again!"

We did so, naturally. Any man would—all except forgetting about it. We thought about it all the time, and more or less correspondence interchanged while every sort of process was going on, from such weighty matters as to what kind of a tip should go on the fore arm to the length of the pistol grip; which latter Baker could hardly credit, saying that our proposal was "a whale of a long grip!" But our hands happen to be built that way; so the grip was.

Here's what was done to that veteran of the 'eighties: When it went to Baker it was of course "regulation" from bayonet stud to butt plate—51 9/10 inches long; barrel 36 inches in length; weight of gun, 9 pounds 5 ounces.

The barrel was cut to 25 inches. Why just 25 inches? Because Eric Johnson, who knowns as much about these old guns as anybody this side the Custer massacre, says that 25 inches is absolutely the ideal length for the best performance of their twist of one turn in 22 inches. Then the new muzzle was slightly countersunk with ordinary 60-degree countersink in a breast drill, then lapped with valve-grinding compound on ½- and ⅝-inch brass balls held in the drill (by means of an 8-32 machine screw for a shank). This crowned the inner half of the barrel and also squared it perfectly. The outer half was crowned by careful filing, and the muzzle was finished with fine emery cloth and crocus cloth held on the ball of the thumb.

Then the rear sight came off. As these sights were held on by two 8-32 screws the forward hole was blanked by turning in a similar screw, first dipped in sal-ammoniac to rust it in. The screw was then cut off, peened, and filed and polished down till the joint was invisible. The barrel was then polished and two bands were fitted, one over the remaining rear-sight screw hole and the other forward, at the point where the swivel was to come through the fore end. Both these bands were sawed and filed out of "Shelby tubing." This is a seamless-drawn, mill-steel tubing, easily cut and worked, available in sizes from ⅛ inch up to several inches in diameter, and in thickness from a thirty-second of an inch up to several inches. It can be upset, cold, to a slightly smaller diameter, or it can be stretched; and dealers in it will sell you any length from a half-inch to 20 feet of it. Both bands were left with walls sufficiently thick, respectively, for a base for a No. 6 Lyman two-leaf folding sight, and for a stud for the swivel screw. The bands once on, they were tapered to a perfect fit by peening very lightly over the barrel before final filing and polishing.

Then that front sight, ramp and band, was begun on. It was also cut from Shelby tubing, ¾-inch bore with wall ½ inch thick, cut out with shaper and filed, fitted snug and sweated on. The whole sight is 4 inches long on the barrel and the ramp is 3¼ inches, matted by means of a jeweler's automatic electric hammer. The front sight is a Sheard gold bead on a short caterpillar Marble mount in a cross slot in the front flat top of the ramp. The first rear sight is a Lyman No. 6 with two folding leaves, set, by firing test shots, for 50- and 100-yard elevations. Under the dovetail in the band which holds this sight is an 8-32 screw in the original rear sight rearward screw hole in the barrel.

The barrel was blued by four slow rustings followed by a hot process very like the Hoffman method but with Mr. Baker's own bluing solution, taking three hours to complete to a dark, deep, black-blue. The lock plate was blued to match; and this proved the very dickens of a job, owing, as was found, to its being of steel of a very peculiar texture, with hard and soft streaks running through it. It was held at a dull-red heat in charcoal for an hour. Niter bluing was tried, which developed red and purple spots; then charcoal bluing, which produced gray streaks; then cold rusting, which gave a fine *brown* color; and finally the good old hot solution was returned to, which gave the best and most even color, deepened by heating to just below cherry red and quenching in linseed oil.

The original breech block was dark, but by chance one happened to be available which

Photographs by Courtesy Milwaukee Public Museum.

was very handsomely case-hardened in colors and proved also to fit more snugly against the head of a cartridge, so this was substituted. The hammer was lightened by careful filing, and by cutting a hole in the vertical arm, somewhat like the S-holes in a violin. After being thus "filagreed," as it has been called by an admirer, it was rehardened with cyanids and then lightly etched with a weak nitric-acid solution, so that the rebluing would take hold.

The receiver tang was lengthened an inch and a half by welding on a piece of tool steel and shaping up with the file. The tang-screw hole was filled up by welding and a new hole drilled ⅛ of an inch farther forward. In stocking, the guard was accordingly set an eighth of an inch forward of its original position and the trigger point stretched so as to reach the sear properly. This naturally reduced the trigger leverage, slightly increasing the pull, but eliminated any drag by shortening the pull. The weight of pull was then reduced by careful dressing of the contact points between the sear point and tumbler notch. While doing this all the lock parts were polished up—the detail that some one has called the "inside information" as to whether a finely made gun really is such. The long rear tang of the trigger guard was cut off to the same length as the front tang and a new hole drilled and countersunk for the wood screw.

The rear sight is a Lyman No. 30½ with disk, thumb lock, and wind gauge in the base. This gives a range of adjustments that you can not get on the No. 1A, and they may be needed with the various loads that one can put up for the .45-70. And Mr. Lyman doesn't advertise this sight as adapted to the "old Springfield," either! Maybe we can tell him something about his own sights that he never thought of!

The stock was made to our specifications, fairly straight. What is it that Captain Askins says about "the more a man shoots and the older he gets, the straighter a gun he likes." A 2-inch pitch was given the stock. The shape of the lock plate determined the stock's being paneled at the rear of the receiver like a shotgun stock, the panel merging into the body lines of the "hand-full" fore end. The stock was made of clear, straight American Penrod walnut, which had been air-seasoned for a couple of years before being cut out of the butt, boiled in live steam for five hours to kill all sap and kiln-dried for ten days.

The "whale of a long" pistol grip was made 4½ inches from center of trigger to nearest point of grip cap, and precisely fits our hand and trigger finger. A cheek piece shoves one's chin off to the left, where it belongs, out of the way, and brings the eye directly in the sighting-line. The stock was oil-finished, and the checkering on grip and fore end has eighteen fine, sharp, strong diamonds to the inch. It feels to the hands like one's grip on a piece of shark skin. The fore-end tip and grip cap are of jet-black polished carabao horn. The trigger guard was much improved by a little careful narrowing and reshaping. A Mannlicher butt plate, deeply cross-lined to prevent slipping on the shoulder, went on the butt, and the trap in it covers three cylindrical hollows, put in both for carrying conveniences and also to secure exactly the weight and balance that was desired. Without the sling the gun weighs 7 pounds 12 ounces and is, intentionally, just a shade muzzle-heavy.

Spring-bar sling swivels went on, the forward one on the stud in the fore end, 1 inch back of the horn tip; and the rear one on a similar stud 2¾ inches from the toe of the butt plate. (Incidentally, in the photograph the sling is on wrong end to.)

It should be mentioned, for the benefit of any one contemplating similar work on one of these rifles, that the two big lock-screws on the left side of the stock opposite the lock plate hold the sides of the stock very tightly in against the receiver, which is what they are for, and on any dismounting of these arms these screws should first of all be loosened two or three turns to insure against cracking the wood. Also the lock and guard plates fit so snugly into their recesses that any removing should be done with care, or the edges of the wood may easily be chipped off.

For final test the gun was shot by three different persons, using Western smokeless cartridges with 450-grain Lubaloy bullets, giving 2¾-inch groups at 100 yards. At that, all three felt that the gun would do still better, as the improvised muzzle-and-elbow rest used was not sufficiently rigid to insure the utmost possible accuracy.

What's it for? Everything, from deer to woodchucks; with a range of possible loads from an 18-grain-powder charge (Sharpshooter) and 210-grain bullet for "pot meat, fur and feathers," to a load that will develop 1,600 to 1,800 foot-seconds' velocity. Unfortunately, while up to a short time ago nearly all the ammunition factories put out full-charge, short-range and gallery loads for the .45-70, in smokeless as well as black powder, and of excellent accuracy at the ranges for which they were respectively designed, today no one is making anything in this calibre except full-charge loads with 405- and 432-grain bullets. (Remember, "H. V." loads, and anything giving over 30,000 pounds breech pressure, are *not* for these guns.) However, Mattern's "Handloading Ammunition" will give you every detail as to how to "roll your own" for not less than twenty different loads, all the way from the 500-grain bullet down to the 140-grain round ball and tiny powder charge, for "popping around." And there's no fun quite like making your own ammunition and seeing what it will do.

Now, we've gone to all this length of description for just one reason: Here's the very cheapest good, reliable, serviceable, powerful rifle that any one can buy today. You can get one from any one of three or four dealers for prices running from under $5 to under $3, while the D. C. M. is still listing these old rifles at $1.25 each. No one can beat that. You can put on one of them just as much or just as little labor, care, skill and time as you choose, and sights as elaborate or as simple as you like or can afford. For it you can load cartridges for moose or rabbits, or anything between. It isn't a repeater; but you'll shoot all the better for that fact when you learn the gun and what it will do. The man who relies on one aimed shot for getting game, instead of on "throwing lead," is the man who gets it; which always has been true and always will be.

THE SHOT CHARGE IN ACTION

(Continued from page 13)

Sweeley theory it would seem that the outward tendency of the shot ought to be negatived by the choke, anyhow; but this does not seem to be the case. By dividing the load in two sections by means of a wad between, loading different sizes of shot below and above, I found that the section of the shot charge above the dividing wad went into the usual choke bore pattern with of course a thinner pattern, while the lower section spread as though from a cylinder bore. This seemed to show that the top section of the load was elongated in the usual choke-bore fashion, while the lower section behaved as though shot from a cylinder bore. This being true, we get shot spread when wads are used between two or more sections of the charge, simply because in that case the choke can not narrow and elongate the shot column. All of which being true, if a man could shoot his shot charge without any top wad on it at all, he would get closer and better patterns; or if he could use a wad that broke up into four pieces under the pinch of the choke he would get closer and better patterns. Choke-bore patterns can be absolutely ruined by a ⅛-inch oversize black-edge wad above the shot. Try it.

Doubtless when all is said no one theory will account for everything that occurs; but there is some truth in all of them. Even gas-blast may sometimes affect the pattern, though we do not in the least believe that the choke ever holds the wads in check while the shot are getting away. As for blowing a soft wad, resisted as it would be by the air, though a nearly solid mass of shot, that would be some job. Probably Sweeley is right, and the force lines of the shot are changed by the choke from a tendency outward to straight forward. Looking at the photograph of a shot pattern in action, as taken 6 feet from the muzzle, with the bulk of the shot still within the muzzle width, the shot column 4 or 5 inches long, it seems assured that column elongation or the funneling process has much to do with choked patterns. Looking at the masses, and seeing how those masses are still within the barrel width at 6 feet from the muzzle, while the loose shot are getting out of bounds, makes it appear that there is something in the Askins theory of shot-welding having something to do with close patterns. Looking at pattern 1, which is reproduced here half size, distance 12 feet, it will be seen that the bulk of the shot are still in pretty close masses; and even at 24 feet, pattern 2, half the shot were in such a mass as to cut a hole in the heavy building board. At 48 feet, as seen in No. 3, the shot have all separated, or nearly all of them, into individual pellets. At 96 feet we have the normal shot pattern; but a certain patchiness

(Continued on page 42)

The Sharps Rifle

By L. D. SATTERLEE

MR. KEITH'S interesting article in THE AMERICAN RIFLEMAN for March, 1926, struck a responsive chord in my heart, as it contained a number of things which were new to me. The Sharps has been my special bone to gnaw on, as in compiling my "Catalogue of Firearms," in which I wished to list every model and caliber, the Sharps came in for its share of attention. I never knew whether I had gotten to the bottom of it or not.

It is fairly well known that the Sharps company moved from Hartford, Conn., where they had been located since 1852, to Bridgeport, about February 1, 1876; but the reason for their moving was not so plain. The editor of a Hartford Board of Trade publication issued in 1889 referred to the matter as follows:

"A FATAL MOVE

"In 1852 the Sharps Rifle Manufacturing Co. bought from Christian Sharps the patents for a breech-loading rifle, and contracted with Robbins & Lawrence, of Windsor, Vt., to make 5,000 at that place, and also to build a factory in Hartford with a capacity for turning out 20,000 a year. Its actual capital was $100,000; afterwards increased to $125,000. For a long period the company was highly prosperous. Out of profits it paid for the buildings and equipment, returned the original investment to the owners and declared large dividends. Owing to an unfortunate bargain with the promoter of the enterprise, to take effect only when it should reach an entirely unexpected degree of success, but which came before 20 years had elapsed, the owners dissolved the company about 1873 with a division of assets among the shareholders.

"Another combination bought the patents and machinery. In an evil hour the new company yielded to the blandishments of a sister city, surrendering in return for gilded front the solid advantages of Hartford, to move elsewhere. Largesses proved a rueful compensation for the loss of wise supervision and trained labor. For years the name painted in large letters on deserted walls told in silence the story of decay and death, a monumental warning to reject the allurement of donatives when tempted to swap certainties for uncertainties."

Needless to say no Bridgeporter would talk like that, and as one Penfield was the promoter of the enterprise, we wonder just what that bargain was.

While in New York City a year ago I wandered into a well-known antique-arms store and purchased a Sharps & Hankins carbine with a caliber of .45 inch, which was a new one on me. I had always thought these guns to be .52 caliber and no other. So I decided the best thing to do was to go right to Hartford and find out all about it. However, we will let that go until later.

The Sharps is especially interesting on account of the length of time the company was in business, the splendid action of the gun itself, its record during the Civil War in the hands of the cavalry and Berdan's Sharpshooters, its use by California Joe (by the way, are there two such men?) and its use in Buffalo hunting from 1872 to 1883 and also in Creedmoor shooting.

There are rumors that the Sharps rifle was made and used during the Mexican War in 1846; but I have my doubts about this. The gun was patented in 1848 by Christian Sharps while in Cincinnati. In 1849 Sharps was in Washington, D. C.; probably there to see Dr. Maynard regarding the use of his priming device. The first Sharps rifles that I know of are illustrated in the United States Cartridge Co. catalogue, being Nos. 259 and 386. They have a cleaning rod and a peculiar curved lock plate. They were made by the Massachusetts Arms Co., of Chicopee Falls, in 1850 and 1851. This company had been incorporated in March, 1850, to manufacture the Wesson & Leavitt revolver, but owing to a suit by Colonel Colt were forced to stop, and probably undertook contract work for anybody who wished it, the Sharps being one. I doubt if many of these guns were made, probably some defect in them preventing their large sale. It is said that Robbins & Lawrence, of Windsor, Vt., pointed out methods by which this rifle could be improved. Anyway, a certain George H. Penfield stepped upon the scene. He made a contract with Robbins & Lawrence on June 25, 1851, but dated September 25, 1851, calling for the manufacture of 10,000 rifles. In order to raise money he organized, on October 9, 1851, the Sharps Rifle Manufacturing Co., a joint-stock corporation, which was incorporated December 13, 1851, and on December 18, 1851, assigned or turned over this contract to Robbins & Lawrence. Another contract was entered into by Robbins & Lawrence with the company, incorporating the first contract, on January 9, 1852. This contract was a very peculiar one. It called for the manufacture by Robbins & Lawrence of 5,000 Sharps carbines in their own plant in Windsor, Vt., and also for 15,000 more by January 1, 1855, in a plant to be erected in Hartford, Conn. The Sharps company were to advance $40,000 to Robbins & Lawrence, as follows: $10,000 each on the eighth days of April, May, July and September, 1852, while Robbins & Lawrence were to furnish the rest of the money to fully equip the plant with machinery, tools, etc. The rifles were to cost $12 apiece and were to be paid for on delivery, but $2 was to be deducted on account of the $40,000 advanced. The contract also provided that the Sharps company could buy the plant by January 1, 1855, by giving six months' notice, an appraisal to be made if necessary. As security for the performance of the contract, Robbins & Lawrence were to convey all the Hartford property to the Sharps company until the contract was completed. It was this peculiar contract which was later the cause of a lawsuit which probably prevented the Sharps company from manufacturing much in the years immediately following the Civil War. However, in their catalogues the following explanation is given:

"The Sharps system of breech-loading arms was invented in 1848 by Christian Sharps, and was the first successful breech-loader made. The manufacture of these arms was begun on a large scale at Hartford, Ct., in 1851 by the Sharps Rifle Manufacturing Co. and continued with unprecedented success, and until the company became involved in litigation with an associate, which was long prosecuted with acrimony on both sides. Finally, in 1875, worn out by the expenses and delays of these suits (during the progress of which their production of arms had almost ceased), and unable to effect any satisfactory adjustment of their differences, all the parties in interest united in a sale of the old company's effects to a new organization, specially chartered by the State of Connecticut with an authorized capital of $1,000,000."

Now the question is, who was this associate?

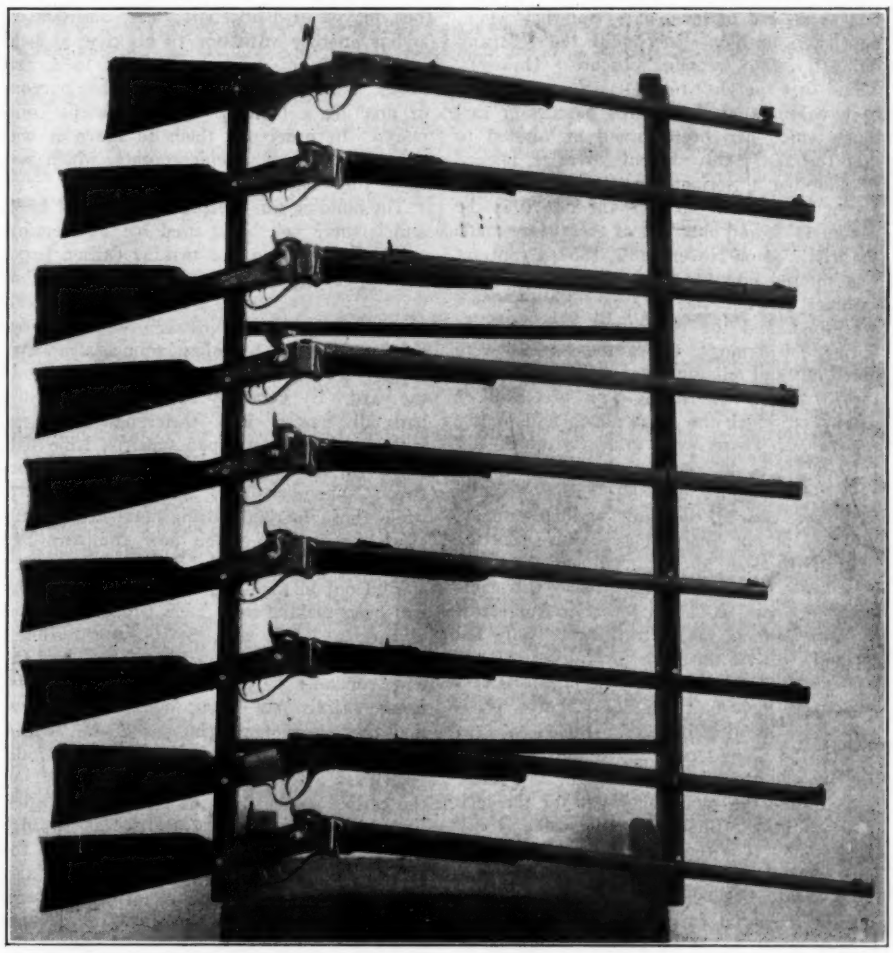
To go fully into the history of Robbins & Lawrence would be quite a task. Suffice it to say, that the firm was once Robbins, Kendall & Lawrence, and it was Kendall who gave his name to the Kendall underhammer rifle made about 1836. The firm later obtained contracts for the manufacture of United States percussion rifles, Model 1841, caliber .54, and made considerable money on it. About 1850 they also were making Jennings rifles and Leonard pepperboxes. In 1852 they undertook the manufacture of the Sharps; but owing to unfortunate investments in the manufacture of car wheels they were continually embarrassed for funds. On March 8, 1855, they undertook a contract to manufacture 25,000 Enfield rifles, caliber .577, for the British Government, through the British agents, Fox, Henderson & Co. The latter advanced $100,000 to Robbins & Lawrence, to be paid back at the rate of $4 per gun. Robbins & Lawrence were given to understand that they would receive another contract for 300,000 Enfields, and Lawrence himself asked to see the additional contract which the British agent said he had, but Mr. Robbins said that he considered it impolite to do so. The price was so low that no profit could be made, on account of the cost of the tools. In order to secure the advance of $100,000 Robbins & Lawrence mortgaged whatever right they had to the Hartford plant, and in order to obtain a further advance of $30,000 they asked the Sharps company to release the outer portions of the Hartford plant. On October 26, 1856, Robbins & Lawrence were forced into bankruptcy, and the British Government, through their agents, Fox, Henderson & Co., stepped in and took possession of the Windsor plant, afterward assigning all their rights to one Rowan. To go fully into the history of this

lawsuit would take a book in itself; but in 1857 the Sharps company took possession of the Hartford plant, and it was the efforts of Colonel Rowan to get his hooks on the property that, I believe, caused all the trouble. The lawsuit was begun about 1857 and continued until about 1869. During the Civil War, however, there was a great demand for arms, and the Sharps plant was kept busy turning out carbines and rifles; so the British Government did not interfere with the operation of the plant in any way.

The first guns made by Robbins & Lawrence at Windsor, and also at Hartford, are called "box locks," as they have a lock similar to that of the Ames Navy pistol. These box locks were evidently made as late as 1864, as they are listed in Schuyler, Hartley & Graham's catalogue for that year. These rifles also had the Maynard tape primer and slanting breech block. In 1852 Sharps patented a disk primer, and a new model gun was made up, still using the slanting breech. Just how early this was I am not sure, but according to Iseley's article on "The Sharps Rifle in Kansas History," it must have been as early as 1854. The traditional "John Brown" Sharps, 102 of which were captured at Harper's Ferry in 1859, were of this type. They had been sent to Kansas in 1856, but the Kansas troubles were about over; so they were never used, but were stored in Taber, Iowa, and finally turned over to John Brown, who carted them overland to Harper's Ferry. These "John Brown" carbines are caliber .52 and have a long 9-inch slide bar on the side; but both of these types seem to have been made in three calibers—viz., .52, .44 and .36. There is another model like the "John Brown" but having Maynard's 1855 primer. There were 6,500 of these latter made in 1856, all but 500 being for the British Government; so they are rather scarce in this country.

This brings us up to the Model 1859 Sharps, which has the vertical breech block and disk primer. I have never seen any or heard of any made in other than .52 caliber, and believe for other calibers the earlier models were used. During the Civil War the Sharps company had to expand greatly on account of large Government orders. Over 80,000 carbines were obtained by the United States and about 8,000 rifles. In the spring of 1862 about 2,000 long-barreled rifles were obtained and issued to Berdan's United States Sharpshooters. California Joe was a member of this organization and bought one of these Sharps himself. Steven's History of Berdan's Sharpshooters claims that California Joe was fairly well-to-do. He had been disappointed in love, and to hide his injured feeling took to the simple life, and went out to California to hunt lions, whence his name. Whether or not this is the same California Joe often mentioned in Western history, and who was killed in 1877, I am not sure.

The war ended and the usual slump followed, which gave rise to the statement that the Sharps plant instead of making rifles was making sewing machines. Wm. C. Dodge said that at the beginning of the Civil War he went to the Sharps company and urged them to adapt the Sharps rifle to metallic car-



READING FROM TOP DOWN

(From collection of Mr. W. H. Lenneville)

1. *Sharps Borchardt, caliber .40-45 Sharps straight 1⅞-inch shell. Marked on left side of receiver, "Sharps Rifle Co., Bridgeport, Conn. No. 20850, Pat. Dec. 1876." Weight, 8 pounds 12 ounces. Barrel, 26 inches.*
2. *Sharps Buffalo rifle, caliber .45 Sharps 2⅞-inch straight shell. Marked on tang, "No. C 46090"; on lock plate, "C Sharps Pat. Oct. 5, 1852"; and on left side of receiver, "Sharps Pat. Sept. 12, 1848." Weight, 13 pounds 2 ounces. Barrel, 30 inches. This gun has been altered from a Model 1863 percussion Sharps. It probably would be called a Model 1869, if anything.*
3. *Sharps Buffalo rifle, caliber .45 Sharps 2⅞-inch straight shell. Marked on tang, "162055"; on left side of receiver, "Sharps Rifle Co., Pat. Apr. 6, 1869." Weight, 15 pounds 10 ounces. Barrel, 30 inches. This was made by the new company, and is probably the Model 1874.*
4. *Sharps Buffalo rifle, caliber .45 Sharps 3¼-inch straight. Marked on tang, "C 32759." Other marks same as percussion guns. This is a rebarreled gun and may be similar to the St. Louis Sharps Mr. Keith mentions. Weight, 12 pounds. 30-inch barrel. The barrel is not stamped "Bridgeport." Altered from percussion.*
5. *Sharps Hunting rifle, caliber .45-70 Sharps. Marked same as percussion guns. Weight, 11 pounds. Barrel, 30 inches. Altered from percussion and rebarreled.*
6. *Sharps Business rifle, caliber .45-70 Sharps. Marked on tang, "161525"; on left side of receiver, "Sharps Rifle Co. Pat. Apr. 6, 1869." Barrel stamped on top near breech, "Business 45." Barrel, 28 inches. Weight, 10 pounds 7 ounces. This is a cheaper model, having round barrel. Made by the new company, later called Model 1874.*
7. *Sharps Hunting rifle, caliber .40-90 B. N. Marked on tang, "47110." Other marks same as percussion. Weight, 10 pounds 9 ounces. 30-inch barrel. Altered from Model 1859 percussion, and rebarreled.*
8. *Sharps Borchardt Hunting rifle, caliber .45-70 Sharps. Marked on barrel under fore arm, "17436"; on left side of receiver. "Borchardt Patent, Sharps Rifle Co., Bridgeport, Conn., U. S. A." 30-inch barrel.*
9. *Sharps Hunting rifle, caliber .45 Sharps 3¼-inch shell, but stamped, "45 2-10." Weight, 9 pounds 8 ounces. Marked same as percussion guns, but barrel is marked "157962." 32-inch barrel. Other marks same as percussion guns. Altered from percussion and rebarreled.*
All barrels are marked "Old Reliable," "Sharps Rifle Co.," and "Bridgeport, Conn." except "C 32759," which has a plain barrel.

tridges instead of linen ones, but they would not listen to him. Just what the company did after 1865 remains obscure. However, I find that the Ordnance Department decided to have some of the Sharps percussion carbines which had been turned in, altered to take the .50-70 Government cartridge, instead of adopting a Springfield carbine. The first Springfield carbine to take the .50-70 is the Model 1870, and only 313 of these were made for trial. So on November 2, 1867, a contract was entered into for converting these Sharps carbines at $4.50 each. A new breech block was used, and the guns were sent back to Springfield Armory, where the barrels were bored out and relining tubes put in, and bored to .50 caliber and rifled. This was Bailey's patent, on which the Government had to pay a royalty. There were 31,098 carbines and 1,086 rifles so altered between February 25, 1868, and October 6, 1869. This probably gave the Sharps company a little money. Whether or not Sharps put out any sporting rifles at the time, and what calibers they may have been, I am not certain. Since the slanting breech guns could not be altered it seems the first calibers for cartridge guns were the .52 and .50. At the Paris Exposition in 1867 was exhibited a .50-67 rim fire. There is also a cartridge known as the .52-70 Sharps, probably used in altered rifles. But I do not believe the Sharps company made it a practice to sell altered rifles, though they must have altered the tools somewhat for the lock plate. I have a Sharps carbine which is still .52 caliber. It is central fire, and the original breech block is used, with the nipple hole plugged up. The chamber is so large that I imagine a special cartridge was made for it. I have never heard of a rim-fire Sharps in .44 caliber, and doubt if there were any. In 1869 the Russian Berdan rifle was being made in the Colt plant in the same city as the Sharps, and it is possible that Lawrence copied the .42 Russian cartridge and called it the .44-77 necked. Possibly, too, the .40-70 necked was also introduced about that time.

The lawsuit previously mentioned was giving the Sharps company the "creeps," and as a result they did not do much. Lawrence says he tried to get them interested in other products, but that they would not consider this. In 1871 the directors sold the whole shooting match to the Weed Sewing Machine Co. (who had been located just across the river from them), and this gave rise to the dismal idea that Sharps were making sewing machines. Business was picking up, however, and the demand for Sharps rifles made the company rather cramped for space, and they had to let the rifles out to different plants for finishing. Sharps died March 13, 1874, of a hemorrhage of the lungs, at the age of 63, and as the directors did not care to continue the business, about September, 1874, they sold all that was left of the company to a new group of men, who on October 31, 1874, organized the "Sharps Rifle Co.," omitting the word "Manufacturing." The lease was about to expire, so the new company drew up plans and began to look for another location. It was here that Bridgeport came onto the scene. Phineas T. Barnum, of Barnum & Bailey, was then mayor of Bridgeport; and, desirous of adding another attraction to his city, he held a meeting in his office on June 4, 1875, and about $40,000 was raised for the purpose of erecting a building for the Sharps company. In order for them to move it was necessary that they reincorporate, which was done July 15.

The building was erected in the fall of 1875, and is there yet, being used by the Remington Typewriter Co. for making carbon paper and typewriter ribbons. It is at the foot of Clinton Avenue, and the New York, New Haven & Hartford Railroad. Near by I noticed a Barnum & Bailey animal-barn, with some solemn-looking camels parading around the yard. By February 1, 1876, the company had all moved into their new quarters. Rifles which are stamped "Sharps Rifle Co., Hartford, Ct." are thus made some time between November, 1874, and February, 1876, while those marked "Bridgeport" were made after that period. The new company had two new patents, one the Borchardt, and they started out in high hopes. The old company had been making long-range Creedmoor rifles as early as 1873, and this was continued. I had previously been of the opinion that the new company first made the Model 1874, using entirely new tools; but I now believe that they simply gave this designation to distinguish the hammer rifles from the Model 1878 hammerless. The new company left off the earlier patent dates on the hammer rifles, and put on the date, "April 6, 1869," which was the date of a patent for adapting the gun to use metallic cartridges. There is also a Model 1875 rifle, a forerunner of the Model 1878. This Model 1875 rifle was self-cocking and had a dummy hammer. It is illustrated in the Centennial Catalogue. I have a Sharps circular describing it, but no calibers are mentioned. Another model is the Model 1877 long-range Creedmoor. This is a hammer rifle, but the hammer and lock plate are smaller than those of the regular hammer rifles, and the gun has a Rigby round barrel, using a .45-caliber Sharps 2.6-inch straight shell. These rifles were all handmade, and probably few of them were ever produced.

The Sharps company thought they would make a good thing out of the Borchardt Model, and in 1878 abandoned the hammer guns. I believe 2,000 of the military models were sold to the State of Michigan and some to North Carolina, but they had one disagreeable feature: If the primer burst it would be apt to lock the gun, as there was no way to cock it and drive the primer in again. Although the company had discontinued the hammer guns, the demand for them was so great that in 1880 they advertised that they were making them again, with barrels fully equal to those of the others. Could these be altered rifles with Bridgeport barrels made after 1876? Mr. Keith thinks they were altered in St. Louis. Who in St. Louis did this? The Sharps gun was too good a gun to throw away because it was percussion, and I believe it could be altered by simply supplying a new breech block and barrels, and a gunsmith could do the rest.

The Sharps company advertised rather extensively from 1875 to 1879, but discontinued after that. It seems that they tried to manufacture the Lee .45-70 repeating rifle, and the "Lee Arms Co." was incorporated in 1879. The officers of both firms were the same, and the location also. I believe they were having difficulty then, and although these early Lee repeaters are marked "Bridgeport," they were really made at Ilion by Remington's who later improved the model and adopted it as their own. Although Sawyer says the Sharps company suspended business in October, 1881, I have not been able to verify the fact. It was before 1883, anyway, though they were listed in the City Directory as late as 1886. Probably the office cat and stenographer were still on the pay roll.

Sharps rifles are often prized on account of their use in Buffalo hunting. They were the strongest guns at the time and could use the heaviest charges of powder and ball. Possibly the demands of the Buffalo-hunters kept the factory busy; but my friend Mr. Lenneville, a picture of whose collection appears herewith, states that a good many Buffalo Sharps are alterations from the percussion, although they have Bridgeport barrels made after 1876. So the thing is still a puzzle to me as to how these altered guns came to be.

Sharps himself seems to have been peeved at the way the Hartford company treated him. He got a royalty of $1 per gun, and with the money went to Philadelphia about 1856 or 1857 and established an armory for making dragoon pistols, which had a falling block similar to that of the larger model, and gave rise to the belief that they were workman's models. I believe not; they were of regular manufacture, but possibly the Hartford company prevented Sharps from copying so closely. So Sharps went into the manufacture of 4-shot pepperboxes, and in 1863 went into partnership with William Hankins. They obtained a Government contract for the Sharps & Hankins carbine, and also made rifles for the Navy. In fact, the Sharps & Hankins was the regulation arm of the Navy from 1863 to 1872. It seems, too, that Sharps made cartridge revolvers (the Lower and Grant), but these were an infringement of the Smith & Wesson, and so had to be discontinued. Catalogues sometimes call the Lower revolver a Western product; but Lower did not go to Denver until about 1872, and I believe Lower revolvers were made during the Civil War. Lower originally worked for Jos. C. Grubb & Co. as early as 1854, and testified in the Smith & Wesson lawsuit against Ethan Allen.

It was this Sharps & Hankins .45-caliber gun that puzzled me. I remember there was an article about Kit Carson using a Sharps & Hankins carbine which the author says is .45-120-caliber. If it really is .45-caliber it may be one of the small sizes. Wm. Read & Son about 1878 advertised Sharps & Hankins guns using the .45 colt cartridge. The bore being about the same, the chamber could be altered so as to use Colt cartridges. This .45 Sharps & Hankins must have been an obsolete cartridge, and never made by the ammunition companies after the war.

The Croft Featherweight .45

By ELMER KEITH

MR. S. HAROLD CROFT, of Philadelphia, being a gun crank and collector, decided to design the changes necessary in our regular Colt .45 S. A. Army and Bisley model revolvers to make these the last word in light, dependable, accurate pocket guns using the most powerful six-gun ammunition known. Just how well he has succeeded I shall endeavor to make plain.

First Model Featherweight

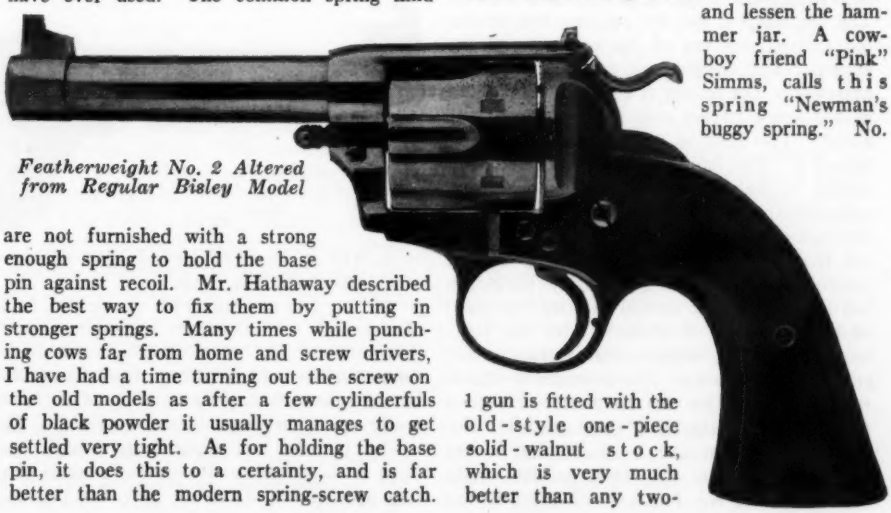
In this work Mr. Croft was fortunate in having the co-operation of two of the most capable men in the country. M. R. F. Sedgley, who made all the frame alterations, did the bluing and engraving, etc., has $10,000 worth of tool equipment, and knows his business. Mr. Neal Houchins made the sights, stocks, and did the action work. Mr. Houchins does all this work by hand, and employs no helpers. Truly he is an artist at this work, as the guns themselves plainly show. Mr. Croft designed and had made up four models of .45 Colt Featherweights.

No. 1 was originally a regular S. A. Army. The rear of the recoil shield, or ball of frame on each side of the hammer, has been hollowed out to remove some of the excess weight. Beginning just in front of the trigger guard, the frame and bottom strap have been narrowed down. The ejector tube has been removed. The rear side of the loading gate is also hollowed out to conform to the shape of the recoil shield at this point. Remember that this arm was designed wholly as a self-defense pocket weapon, where the five or six shots contained in the cylinder will be all one will need in a mix-up with holdups; and anyway, if the gun did run dry you would be dead before you could reload. The shells can be punched out with a lead pencil. It would be far better to pack two guns than to attempt reloading while a holdup with automatics was in progress.

The top strap of this gun has been altered to that of a perfect flat-top target model, like the New Service Target, or Officers' Model, with the strap extended about one-fourth inch farther to the rear. This job looks just as if it were an original factory one. The strap is much heavier and stronger than the regular S. A. Army top strap. This is the only part of the frame that is ever affected by a blow-up, the strap being blown away completely in most cases; so this heavy strap is quite an improvement over the regular issue. Its extension to the rear increases the sight radius by at least one-fourth inch, which in turn furthers accurate shooting. The hammer has been altered to more nearly follow the lines of the Bisley hammer.

Now, the base pin catch. Mr. Croft states that, after having tried many experiments, he is convinced that the old-style screw is best. However, personally I prefer this lever type employed on No. 1 Featherweight to any I have ever used. The common spring kind are not furnished with a strong enough spring to hold the base pin against recoil. Mr. Hathaway described the best way to fix them by putting in stronger springs. Many times while punching cows far from home and screw drivers, I have had a time turning out the screw on the old models as after a few cylinderfuls of black powder it usually manages to get settled very tight. As for holding the base pin, it does this to a certainty, and is far better than the modern spring-screw catch.

Five shots, 15 yards, offhand; 40 grains black, 262-grain Keith bullet. Croft Featherweight No. 1

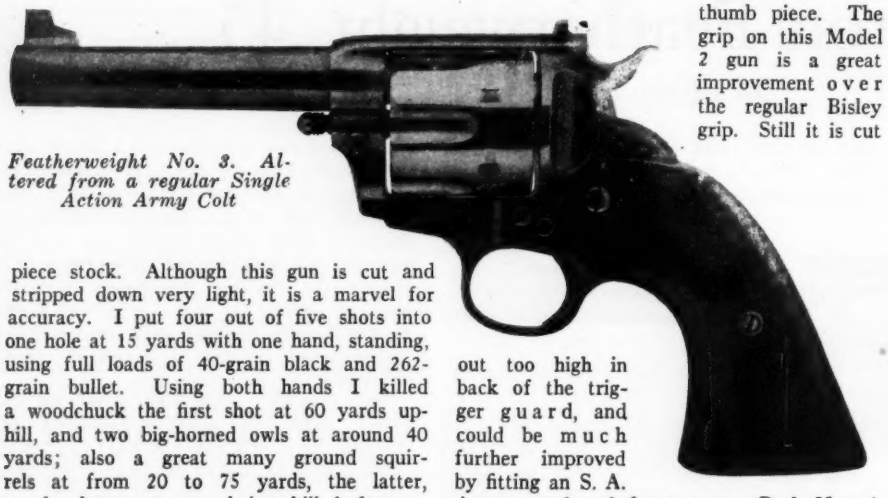


Featherweight No. 2 Altered from Regular Bisley Model

This No. 1 gun is fitted with a simple little lever catch, which to my mind is superior to any factory base-pin catch. I have fired over 200 loads of 40 grains FFG black and 262-grain Keith bullet in this gun and the base pin has never moved from recoil. To remove the cylinder you simply turn the lever up toward the barrel as far as it will go, revolve the cylinder with the left hand, and draw out the pin. It is simple, strong, and effective.

Mr. Houchins made the sights on this model. The rear sight is dovetailed into the top strap, and has a narrow sight blade inclined slightly toward the rear to give clear definition. This blade is adjustable for windage by two screws—one on either side—like the windage adjustment on a Smith & Wesson target revolver. One screw locks the sight blade against the other. The base remains in one permanent position. The sights on all four models are of the square or Patridge type, which is very much superior to any bead sight for any purpose whatever, being much easier to hold uniform elevations with. The front sight is adjustable for elevation. The screw on the side is for locking the sight, the one on the face of the sight blade raising or lowering the blade itself. This is a wonderfully shaped sight blade, giving the maximum sight radius with clear, sharp definition; and it will not catch on the clothes in quick-draw work. To make it perfect for all purposes it should have gold across the face of the blade at the top. This sight has a barrel band and goes on much the same as the front sight on our service rifle. The barrel of Model 1 is just 4⅝ inches long. Distance between sights, a shade less than 6½ inches. The front sight band is pinned in place on the barrel.

This model could be further improved by fitting it with one of John Newman's light, nonbreakable, two-piece mainsprings, which would make the gun cock much more easily and lessen the hammer jar. A cowboy friend "Pink" Simms, calls this spring "Newman's buggy spring." No. 1 gun is fitted with the old-style one-piece solid-walnut stock, which is very much better than any two-



Featherweight No. 3. Altered from a regular Single Action Army Colt

piece stock. Although this gun is cut and stripped down very light, it is a marvel for accuracy. I put four out of five shots into one hole at 15 yards with one hand, standing, using full loads of 40-grain black and 262-grain bullet. Using both hands I killed a woodchuck the first shot at 60 yards uphill, and two big-horned owls at around 40 yards; also a great many ground squirrels at from 20 to 75 yards, the latter, at the longer ranges, being killed from a sitting position. A large porcupine was also killed at around 80 yards, uphill, and in the top of a large yellow pine. I emptied the gun in him before he fell. I tried this gun, and also Model 4, at 440 yards at a small sandstone slab some 6 feet square, shooting offhand on a quiet evening. After finding my elevation I had no difficulty in hitting the stone repeatedly even at this range. The barrel of this gun is fitted up to the cylinder very close, only .003-inch clearance existing at this point. The lightening of these guns has not affected the strength of the frame in the least, as no metal has been removed at any vital point. In fact, gun No. 1 is stronger than it was originally, owing to the heavier top strap. It weighs 31 ounces, Nos. 2 and 3 weigh 32 ounces, while No. 4 is cut down to 30 ounces. The straps are drilled at intervals of 1/8 inch to lighten them on all but No. 4, in which gun the strap is hollowed out.

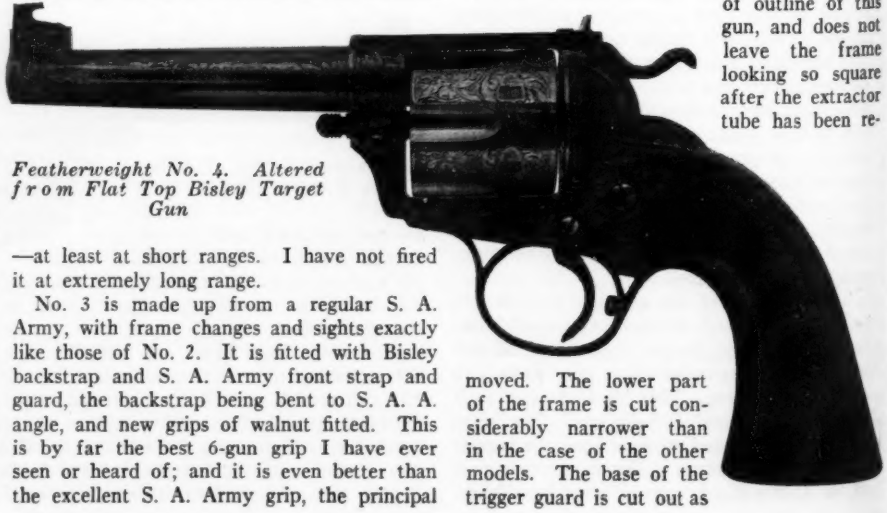
Model 2 Featherweight is made from a regular Bisley Model Colt. It has the same changes as No. 1, with these exceptions: the top strap is merely built up at the rear and extended back far enough to permit of slotting for a regular Colt rear target sight. Also it retains the spring-screw base-pin catch. The top strap is not flat on top, but retains the forward portion of the original sighting groove. The trigger and guard are slightly narrowed. The trigger is checkered and fitted with a screw trigger stop at the back of the guard. This stop is inferior to the one on Model 4. The front sight has a barrel band similar to that of Model 1, but with a fixed, nonadjustable blade. The blade proper is dovetailed into the base; but so neat is the job that it can be detected only by a very careful examination. The Bisley backstrap has been bent back to more nearly the angle of that of the S. A. Army. Also the front strap is altered slightly, and new walnut grips have been made. The hammer is regulation Bisley. I like this hammer better than those of any of the other three models. No. 4 hammer is just like it except that it has been narrowed to cut down weight, while the hammer of No. 2 is left full width at the thumb piece. The grip on this Model 2 gun is a great improvement over the regular Bisley grip. Still it is cut out too high in back of the trigger guard, and could be much further improved by fitting an S. A. Army guard and front strap. Both Nos. 2 and 3 have barrels full size, and 4¼ inches in length, with a sight radius of nearly 6 inches. I believe both of these models should have a fixed sight blade of the same shape as that on Model 1 or Model 4. But No. 2 appears to be just as accurate as its brothers—at least at short ranges. I have not fired it at extremely long range.

Five shots, 15 yards, offhand. 40 grains black, 262-grain Keith bullet. Croft Featherweight No. 4

No. 3 is made up from a regular S. A. Army, with frame changes and sights exactly like those of No. 2. It is fitted with Bisley backstrap and S. A. Army front strap and guard, the backstrap being bent to S. A. A. angle, and new grips of walnut fitted. This is by far the best 6-gun grip I have ever seen or heard of; and it is even better than the excellent S. A. Army grip, the principal difference being that it extends higher in back than is the case with the regular S. A. A. grip, and seems to fill the hand most comfortably at the crotch of thumb and forefinger. This grip feels so comfortable that my fingers fairly itch to try it out in actual shooting; but Mr. Croft gave this gun to a friend and asked that I not shoot it, so I have refrained from doing so. The trigger is checkered, narrowed down and bent to conform to the S. A. Army guard.

My friend O'Meara is now working over a Bisley, and fitting S. A. A. guard and front strap. He is also bending the Bisley backstrap to S. A. Army angle. His grip will extend about one-eighth inch higher at base of hammer, due to the difference in the frames of the Bisley and S. A. Army; but it should be very similar to the grip of this No. 3 Croft Featherweight. No. 3 has a hammer with thumb piece similar to that of No. 1 and I believe made from a regular S. A. Army hammer, with piece attached to conform with the Bisley in shape and to fill the large cut in the Bisley backstrap. The mainspring is like that of the regular S. A. Army, and does not engage a stirrup as in the case of the Bisley. Newman's mainspring would also further improve this model.

Model 4 is a de luxe version of the Featherweight idea, and was originally a flat-top target model Bisley. It is cut down to the extremely light weight of 30 ounces. The frame is narrower at the bottom than in the case of the other three models; and also the ball of frame, or recoil shield, is cut out square like a modern D. A. Colt, instead of being hollowed out as are the other models. This eliminates a little more weight and I think makes a much better appearing job. This gun has a base-pin catch like that of No. 1, and a special tool-steel base pin (not shown in cut), with a special head which affords a good, secure grip for the fingers in removing. The regular base pin is often difficult to remove; and I have seen hundreds of them that had been marred by using pliers or other metal instruments for removing. This base pin lends much to the general beauty of outline of this gun, and does not leave the frame looking so square after the extractor tube has been removed. The lower part of the frame is cut considerably narrower than in the case of the other models. The base of the trigger guard is cut out as



Featherweight No. 4. Altered from Flat Top Bisley Target Gun

much as possible without affecting the strength. The strap is completely hollowed out inside in such a manner as not to weaken it. This gun is fitted with a real trigger stop. The straps are bent to more nearly the angle of those of the S. A. A. than of the Bisley. Even the grips, which are of brier, are hollowed out inside as much as possible. The trigger is finely checkered, and is narrower than that of the standard Bisley. The barrel has a straight taper. It is 4½ inches long, giving 6¼ inches between sights. The hammer is the original Bisley, cut narrow to lighten it. The rear sight is standard Bisley target, being a tight fit in its slot and having a screw to lock it firmly once the correct setting is secured. The front sight, though not the best for pocket use as it is apt to catch in clothing, is absolutely the last word in definition. Elevation is secured by means of a small screw in connection with a spring. Although the adjustments of the sights on No. 1 are quicker and more certain, still I prefer the shape of the sights on No. 4. The flat-top frame has been extended to the rear as on No. 1, the front sight being flush with the muzzle, which not only looks better than having it set back from the muzzle, but also increases the sight radius. The barrel band is of the same diameter and contour as the outside of the barrel, so that it requires careful inspection to see that there is really a band there. The whole gun is a mass of beautiful engraving, which adds the finishing touch to an already handsome pocket gun.

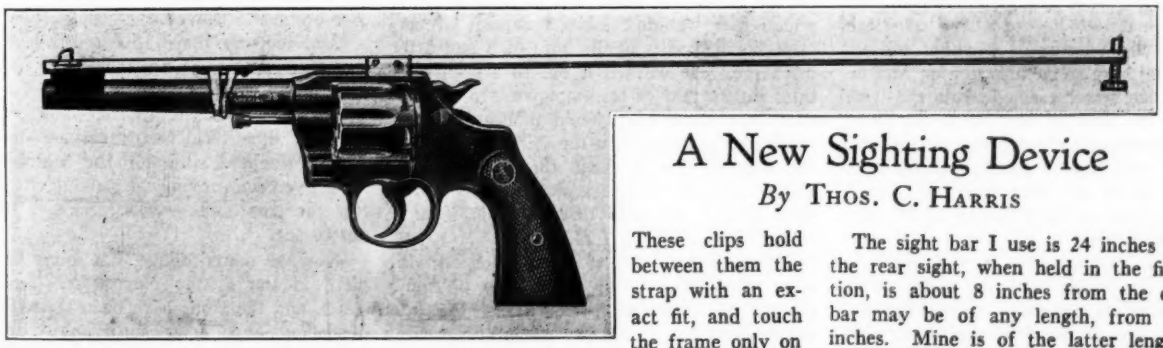
I have shot this gun over 50 times with full loads, and in spite of its extreme lightness I have found it wonderfully accurate. With a charge of 25 to 30 grains of black powder it is a delight to shoot. With full loads the recoil itself does not bother one, but the tip of the hammer spur had cut my hand slightly from recoil after a long string. A man can practice with lighter loads, and when the time comes to defend himself against holdups he will never mind or notice the recoil, or the bite of that hammer tip, until the smoke clears. Mr. Croft also believes in using full black-powder loads behind my 262-grain bullet for self-defense. This No. 4 gun seems to balance better than any other I have ever shot, the weight seeming to lie right in the hand. It could be further improved with an S. A. Army front strap and guard, a Newman mainspring and a regular Bisley hammer.

The weight of a 6-gun should rest on the second finger, as with the S. A. Army. It is the great shortcoming of the Bisley and the double actions that they are cut too high in back of the trigger guard to allow the weight to come upon this finger.

For the average civilian, banker or business man, or even city policeman who now carries a .38 because he does not like the weight of a .45, these Featherweights should prove the last word in pocket guns. They combine light weight, great accuracy and perfect sights and grips with the best man-stopper load known. Mr. Croft is to be congratulated for having designed such a weapon, and Mr. Houchins and Mr. Sedgley upon their wonderful workmanship.

For the ideal heavy belt 6-gun I believe that a 5½-inch Bisley or S. A. Army, fitted with flat-top frame and sights like those of No. 1 or No. 4, with Bisley backstrap and S. A. Army front strap and guard, Bisley hammer and trigger, ejector left on, and with Croft's base-pin catch and a tool-steel pin with a large head similar to, though shorter than, the one on No. 4, and with frame left full weight, would be the ideal gun for this country and for the hills in general. The front sight should have gold or ivory across the face of the square head.

For the hunter desiring a light .45 for emergency use against dangerous game in case of a magazine jam in his rifle, these Croft Featherweights should prove ideal. No; I am not a tenderfoot. The S. A. Colt once saved my life in a jam with a wounded bull elk. Some men condemn packing a 6-gun, but I am glad to be still in the land of the living.



A New Sighting Device

By THOS. C. HARRIS

THERE are many would-be revolver shots who become discouraged by their poor shooting and for one cause or another drop out of the game. The three main handicaps to good pistol marksmanship seem to be: The short sight radius. 2, Imperfect eyesight. 3, Lack of control of the muscles of the hand and arm.

Any good revolver with suitable ammunition is capable of more accurate shooting than one man in a hundred can possibly hold, due to the handicaps just mentioned.

In order to eliminate, as far as possible, these handicaps, the writer has invented and constructed a detachable appliance, which on trying out shows a wonderful improvement in shooting. As shown in the cut, the device consists of a "sight bar," carrying adjustable sights and which may be attached to the revolver in a few seconds and securely held in place by a strong rubber band. I find a rubber band simpler than a spring, and easier to adjust.

The sight bar is made of ⅝-inch steel of channel cross section, and is provided with two brass plates or clips which rest on the top strap of the revolver, above the cylinder. These clips hold between them the strap with an exact fit, and touch the frame only on the top edges, leaving a space of 1/16 of an inch between the bottom of the bar and the top of the strap.

At the forward end on its lower side the bar is provided with a block of brass, permanently attached. This block has a V-shaped groove through it, and the groove is wide enough to straddle the barrel, touching it on opposite sides. This arrangement is precisely like the supports used in holding the telescope of the "Y" level used by engineers. Halfway between supports the bar is provided with two prongs, and over these prongs and underneath the barrel is stretched one or more strong rubber bands, which hold the bar securely in place. When the bar is replaced in position after having been removed from the revolver, the sights return to their original zero with great exactness.

At the front I can use a sight of any form. It is mounted on a base dovetailed across the bar and is adjustable to the right or left. The rear sight is a peep form, mounted on the end of a spring and moved up or down by a screw.

The sight bar I use is 24 inches long; and the rear sight, when held in the firing position, is about 8 inches from the eye. The bar may be of any length, from 18 to 24 inches. Mine is of the latter length, which gives a sighting base some 2 inches longer than that of the Springfield service rifle. I find that the peepsight makes it possible to shoot without glasses, which, at my age, are necessary to read with; and I can not use the open sights at all without them. Thus the longer sighting base secures a much greater precision in alignment, while the rear peep improves the vision of those who use spectacles. To secure a greater steadiness of holding I sometimes rest the little finger of my left hand on my forearm and lightly touch the rear end of the bar with my left thumb.

As described, the sight bar will improve the marksmanship of anyone; and it eliminates, in part at least, the handicaps first mentioned. When one first looks through a sight of this sort he will be surprised at the way he seems to wabble, much in the same manner as when one first uses a telescopic sight on a rifle. The bar which I am using weighs 13 ounces. It might be made lighter but would lose in stiffness. Each device of this model would require to be fitted to the arm on which it is to be used.

Experimenting With Kleanbore Ammunition

By DONEGAN WIGGINS

AWAY back in the days of what some writers refer to as those of "real sport" we of the powder-burning clan would have been somewhat doubtful as to the aptness of any such term, had it been offered. To many of us, our favorite sport was overcast with visions of what was before us after the day was done.

Afield, at the traps or on the range, it was the same thing—a dirty gun or rifle that *had* to be cleaned properly ere we could seek the downy couch that beckoned. If we put it off until tomorrow, as did the less enthusiastic or energetic, we paid the penalty in future hours of hard work over the bore of the said smokestick, or else separated ourselves from, Lo, many shekels, for the purchase of a new barrel, or even a new firearm.

Black-powder fouling was messy, no denying that fact. On a day when it caked in the bore, or between barrel and cylinder of the six-shooter, we longed for the time to arrive that would give us some sort of propellant that would not have some of the soot-bestowing characteristics of the stuff that won the wilderness for us white folk. Many the night after my return from a long day's hunt, tired as a dog, have I poured a can of hot water from the simmering teakettle, robbed the ragbag for material in the shape of clean white cloth and churned a cleaning rod up and down the bore of Winchester or Marlin.

However, hot water seemed to do the trick of cleaning the best of any agent we could find; and when perfectly dry the tube of the "old trusty" was kept in good condition by a coating of grease or even light oil. Incidentally, we were using a better agent than we knew, even then.

Next came the smokeless; and quite a number of us, seeing that no black sooty smudge showed in the bore of the firearm, forebore to give it any attention, save possibly a greased rag run through, ere setting the gun in the rack until needed again. And then what we said, either loudly or else mentally in deference to the qualms of those present, when we looked at the pet the next time the urge to knock over a few seized us! *And how!*

Pitting galore; chamber eroded until a .22 would not extract the empty cartridge case—and that gun must-a been clean when we put it away!—didn't it look nice inside? So what the deuce could be wrong? We of course proceeded to cuss the powder, swamp out the bore with oil, and carry on as best we could. But it destroyed our child-like faith in Santa Claus and smokeless powder.

Later came nitro solvents of varying brands and degrees of certainty. I've used 'em all, and to date have found just two that seemed to possess any advantage over straight hot water as a means of properly cleaning a rifle or revolver. They beat light gun oils all hollow, but still left something to be desired.

Some guns especially seemed to defy anything procurable in the cleaning agent line when used with standard ammunition, of which two glaring examples were the .25-20 and the Model '06 ammunition. And I believe the little cartridge was the worse of the two, at that. I can only recall one rifle of the many of this caliber that I've owned and used, or seen in the hands of others, that had done any amount of shooting and remained in A1 condition.

Well, we just mentioned some pungent terms, and swabbed with nitro solvent, and trusted to metal-cased bullets and whatever red god took care of the welfare of shooters. There seemed to be nothing else to do about it.

But far away came aid, with Adam Burns leading his trusty cowboys to the rescue of the beleaguered settlers, just as they do in the movies of the "old West that wan't." Lest any of you don't know the said Burns, let me introduce him as a gentleman who can at times be found in the company of a person named Egbert Hadley, both of whom can be detected around the cashier's office, in a hopeful state of mind, every pay day at the Remington plant at Bridgeport, back on Long Island Sound.

Anyhow, the said gentleman of Gaelic stock (suspected) had been working for about twenty years on some fancy priming compound that wouldn't leave a deposit of certain chemical salts in the bore of a gun after discharge. He worked it out to his satisfaction, and to that of his employers, to the end that back some twenty-odd months since, I received a package from the said factory, with the request that I shoot the enclosed cartridges, observe the effect, *and keep my mouth shut until I was told to talk about what I found.* All of which I did.

The cartridges were .22 shorts, loaded with what upon examination seemed to be some variety of smokeless powder very like the old du Pont No. 1 rifle powder in appearance. With some misgivings I fired a box of it in one of my pet repeaters, selecting one for which I could easily secure a new barrel, if the expected ruination took place, instead of my Ballard.

Well, to make the story short, I fired the ammunition, and with great self-control refrained from even running a brush through the bore of the rifle afterward. Following which I went away to foregather with a certain company of rude persons with whom I associated in O. D. some ten years ago. A good time was had by all present, save certain hosts of the caravansaries of the City of Brotherly Love, and I journeyed on toward Bridgeport with a pleasant memory. I'd completely forgotten my uncleaned rifle at home, you see.

At the said wide place in the trail, where cartridges are made, I was shown the process. The barrels shot with the new ammunition and stored, uncleaned, in very damp places were exhibited undamaged for my inspection, and Mr. Burns told me of his experiments. Also, a local woodchuck hunter exhibited two rifle barrels of a standard make, one ruined with some 700 rounds of hi-speed .25-20 ammunition, in spite of exhaustive cleaning; and the other barrel, still in the rifle, in perfect condition after firing more than twice that number of rounds of the same ballistic qualities, but with the new priming compound.

I took away with me, officially, a hundred rounds of the new .25-20 Kleanbore hi-speed cartridges; and if the gentlemen above mentioned wish to know where the carton of .45 auto-rim cartridges went that was missing when I left, I refuse to say anything further in the case.

Back in Oregon, "where the rain makes the roses grow," I fired a lot of the said .25-20 cartridges in my Model 25 Remington and a .25-20 Winchester, and sat back to await developments. Nothing happened, or at least nothing that could be called damaging to either the gun or the repute of the makes of the said K-B cartridges. To date that rifle has digested about all those loads; and save for a clean dry patch through the bore before shooting, to remove the dust that collects in it, it has never been cleaned. It's ridden around the country in the car of Red Pete Reinhart, the traffic cop; it has been packed about the hills to kill off a grouse-slaying hawk or twain; it's been out in the rain and standing in damp porch corners, yet the bore is today in perfect condition. No trace of rust or pitting shows, and I am of the opinion that our problem is solved.

And recently there appeared a box with a red ball stamped on the side of it, and many cartridges therein. There were .32-20 hi-speed, .38 specials for the six-shooters, .30-30 for the little Winchester carbine and Krag and Springfield stuff for the military rifles. And I've been proving the pudding at off times for the past three weeks. Sure, I shot 'em up to see.

Now, as stated above, it's somewhat moist here in the Pacific Northwest. And those rifles, and the Colt, have been conscientiously neglected since firing, until now. Somehow, after seeing the .25-20, I didn't get the thrill out of letting them stand uncleaned that I would have otherwise. And today I ran a dry rag through the bore of each, just to see and decide if this new priming were really all it was claimed to be. I felt practically sure it was all right, but wished to know.

Those rifle barrels were as clean as the proverbial hound's tooth; not a sign of rust or fouling was apparent. The bores were perfect in all five weapons. I should have mentioned before this that the accuracy was all that Ol' Man Wiggins can get out of any firearm, which means that the makers put more in than he can get out.

So there you are, brothers of the grooved tube; we are now safe. No longer will we need worry about the bore of "old trusty" when the mists of eve float o'er the lea.

I only keep the cleaning rod for the off chance that the extractor may some day fail to coax the empty case from a tight chamber; I've had it happen before now. I know I don't need it to clean my rifles and revolvers now that Kleanbore is here to stay.

Conducted by C. B. Lister

Sighting Shots From Perry

As THIS issue of the RIFLEMAN comes off the press the first sighting shots will probably be bucking the wind across the ranges at Perry. From information at hand at the time of writing, it is to be expected that last year's capacity attendance at the School of Instruction and Matches will be equaled and probably surpassed this year. Forty-four National Guard Teams attended the National Matches last year, and it is expected that 45 will attend this year. Between 32 and 34 civilian teams are expected this year, with 32 on hand in 1927. In addition, two entirely new teams will put in an appearance in the form of a Reserve Officers' Team and a team from the United States Coast Guard. Inasmuch as the number of unattached civilian competitors is always a little higher each year than it was in the preceding year, preparations are being made to handle a new record attendance in 1928.

For the first time it is expected that specially organized pistol-team squads will be on hand from two or three National Guard and at least one civilian State team.

The Coast Guardsmen have been training with the Marine Corps and Navy Teams at Wakefield, and the Marine Corps coaches have been passing along to the men of the Coast Guard all of the inside dope and shooting lore for which the "leathernecks" are so well known.

Interest in the Police School and Matches this year shows an encouraging increase. In addition to several new four-man teams, it is expected that there will be an unusually large number of departments sending up a single officer to attend the School of Instruction in order that he may return to his own department and instruct the men on the force.

The news-reel movie men who in the past have sometimes found it hard to shoot very many feet of film with enough action in it to be interesting to movie audiences should fare much better this year, with such fast-moving events as the Automatic Rifle Match, Evans Match, in which the competitors "kill' one another, Chemical Warfare Match, Rapid-Fire events and the Police School in Disarming, Jiu Jitsu and Chemical Warfare running full blast.

If your home-town paper does not carry daily reports on the progress of the matches this year, it will be your local editor's fault. The best-equipped publicity department that has ever been set up at Camp Perry will be run under the direction of Capt. J. H. Platt, of the Marine Corps, who is well acquainted with the Marines' system of securing publicity. Generally local newspapers do not carry information relative to the National Matches because they do not think there is anyone in the community interested in reading about the National Matches. If individuals, club members, club secretaries and sportsmen in general interested in the matches will immediately get in touch with the wire editors of their local papers and deluge them with requests for information in regard to the progress of the matches, you may be assured that reports will be printed; otherwise nothing will appear, as usual, and much of the work which is done at Camp Perry to get publicity on the wires will be wasted.

Competitors are assured of a warm welcome in the Office of the Director of Civilian Marksmanship on Commercial Row. Lieut. Col. J. M. Coward, who became well acquainted with the whims, ideas and desires of National Match riflemen during three years of contact with them as Statistical Officer, is now in charge of D. C. M. and National Board affairs and is very desirous that riflemen may feel the same freedom in approaching him and his assistant, Capt. J. R. Brooke, with their questions and problems as they have always felt in taking up the same matters with the N. R. A. Office at Camp.

SCHEDULE—COMING EVENTS

National Matches (High-Power, Small-Bore, and Pistol), August 26 to September 16, Camp Perry, Ohio.

United Services of New England Matches, Wakefield, Mass., August 7-14.

Illinois State Rifle Association and Chicago Rifle Association Match, Ft. Sheridan, Ill. I. S. R. A. 300-Meter Match, August 5. I. S. R. A. Army Course A, August 12.

Fort Pitt Rifle Club, Pittsburgh, Pa. (To get to range: Any street car running to Wilkinsburg will transfer you to a Verona car. Get off at Laketon Road and walk up Laketon Road to Graham Boulevard, turn left on road to Wilkinsburg Gun Club, then downhill to range. Pennsylvania Railroad will place you within one square of Verona car, or take taxi from station direct to grounds.)

Bear and Deer Match, September 1.

200-Yard Prone Match, September 8.

Modified Dewar Match, September 15.

200-yard Offhand Match, September 22.

Connecticut State Rifle Association Matches, September 3 (Labor Day), at New Haven Gun Club.

SEA GIRT FALL TOURNAMENT

Just as we go to press a telegram from Brig. Gen. Bird Spencer advises that the Annual Fall Tournament of the New Jersey State Rifle Association will be held at Sea Girt, September 1 to 4 inclusive. General Spencer states that in addition to the regular annual program of time-honored matches, such as the Nevada, Dryden, Sadler, and so forth, there will also be programmed pistol events, including an Individual Police Match and a Police Pistol Team Match.

There will undoubtedly be, as there always has been, a number of shooters in the East who for various reasons will not be in a position to attend the National Matches at Camp Perry. And because the Camp Perry Matches will be in full swing at the time the Sea Girt Tournament opens, the announcement of the very fine program of matches to be fired at Sea Girt will come as good news.

SUNK WITHOUT WARNING!

THE hopes of the American rifle-shooting fraternity were rudely dashed to earth at Ockenburgh, Holland, on July 24 and 25. The torpedoing of cherished ambitions came without warning and nothing was saved. Our old friends, the Swiss, settled themselves more securely in the throne as Champions of the World with the free rifle by turning in the truly remarkable team total score of 5,421. This compares with their 5,379 of last year and 5,386, the previous world's record, made by the Swiss in beating us in 1925. The tall, good-looking, well-equipped sportsmen-riflemen from Sweden turned in a team total of 5,339, which was the same as our own team score but which outranked ours for reasons yet to be made apparent. The only information at hand so far is a brief cablegram from Col. D. C. McDougal, team captain, which states that we finished in third place "on account of misses."

In past years when the good ship of American hopes has been similarly torpedoed there have been one or two of the boys who succeeded in locking enough of the water-tight doors to avoid the complete submergence of Old Glory. This year nothing like that happened. In the individual competitions members of the American Team failed to capture a single place, with the exception of one of the pistol matches, in which Lieut. Sidney Hinds placed third. Ole Ericcson, of Sweden, on the basis of the preliminary scores, appears to have won the individual world championship for all three positions, with Zimmerman, of Switzerland, second. It is not known whether any of the Americans participated in the Small-Bore Rifle Match at 50 meters. It is certain that none of them placed. Desjamanieres, of France, won the .22-caliber match, with Doctor Schnyder, of Switzerland, second and Zulauf, of Switzerland, third.

The American Team in its training at Quantico repeatedly turned in scores of 5,400 or better, their high mark being 5,441 and

their low score 5,409. Just what happened behind the dikes of Holland is unknown at National Headquarters at the present time, but a complete report is expected in time for publication in the October issue of THE AMERICAN RIFLEMAN.

SECOND INTERNATIONAL RAILWAY RIFLE MATCH

ON SEPTEMBER 9, 1928, at Camp Perry, Ohio, riflemen representing the United States Railway Team will defend its claim to the Pennsylvania Railroad Trophy.

Our scores in 1927 were as good as the open team made in 1921—an auspicious start. Let's keep coming, and make our International as big, by comparison, as the Davis Cup tennis matches, or the Army-Navy football game, or World Baseball Championship series.

We have talent. Highest score ever made over this course was by an American railroad man—Shearer, of the Pennsylvania Railroad.

We have a trophy. One of the most beautiful and suitable trophies in the International collection is the one given for this match by the Pennsylvania System. Certainly well worth doing our best, that it may stay in this country.

The team. It takes twenty regulars and three alternates. We should all be at Perry by the first day of September, so we may participate in the preliminary tryout on September 2, and remain throughout the week for the hardest kind of competitive training; then be weighed on the 8th to see if we can make the team. If we do, then fire the course on the 9th and see if we do not win again this year.

The coach. We voted, at the close of the 1927 matches, to ask Frank J. Kahrs, of Remington, to coach us in 1928. Frank very splendidly agrees to this. Around him will be gathered a corps of assistants that will certainly be of invaluable help when the match is on.

The course. Twenty shots at 50 yards; 20 shots at 100 yards. Any .22 rifle may be used, but no telescope sights permitted. The prone position is used. Standard Dewar targets are used and can be supplied by The National Rifle Association, Barr Building, Washington, D. C. A machine-rest-testing device will be on hand to help riflemen learn which brand of ammunition will best function in their rifles. Any railway employee eligible.

Look for sign, Headquarters International Railway Rifle Team, on arrival at Perry; also write us now if all points are not clear.

The game is young. The last word in top scores is not written.

Our men are being recognized for the type that makes good with the rifle. Help make the world know we can do it.

EXTRACT FROM OHIO RIFLE LEAGUE BULLETIN

IF OHIO is to get the most out of her rifle shooting material, should she not be in the game with some such plan as "registered shoots"? We borrow the idea from the clay-bird busters. On such a basis any club or group of clubs could gather for a day of sport and shoot a course that the O. R. L. agrees is standard. For instance, the .22 men might have the Dewar specified, while the .30-caliber bugs would have to shoot at 200 yards—20 shots slow fire, standing, and 20 shots rapid fire, sitting or kneeling from standing. In return for recognition given by the O. R. L., proper records should be submitted for filing in permanent form. From that data the standing of any Ohio rifleman might readily be ascertained at any time—that is, any rifleman that had shot over our courses in registered matches. The information thus compiled could be valuable to the N. R. A., the Adjutant General or ourselves if a team or group was needed on short notice in any angle of the sport. If a small fee were collected to cover the cost of such office work, medals might be added to any other material we furnished. This is only the secretary broadcasting—nothing official about it, as yet. But we do wish the interested parties would write us their reactions to the suggestion.

E. M. FARRIS, *Secretary.*

SANTA CRUZ STAGES SUCCESSFUL TURKEY SHOOT

By E. W. FALCONER, *Secretary,*
Santa Cruz Rifle and Pistol Club

OUR old outdoor rifle range was located on the banks of the Pacific Ocean, adjoining large Artichoke Ranch, and so located that the shooters had to shoot south into the sun, and ocean haze, almost obscured the targets at times. Then when the artichoke-growers would burn their dead canes we were completely smoked out. So it was decided that if the Santa Cruz Rifle Club shooters were to compete with other shooters in this country they would have to have a new up-to-date outdoor rifle range. We like many other clubs, after paying rent for an indoor shooting gallery, electric-light bills, extra targets, and other incidentals found ourselves financially distressed.

The Club called its wise men together and discussed ways and means to finance a new outdoor range on a more suitable location. After a number of propositions were discussed it was decided to hold a turkey shoot. Committees were appointed to handle advertising, location, sign-painting, turkeys, etc., and the shoot was launched.

Our targets were black turkeys painted on a green field, and a red line drawn inside to represent the meat line of a 10-pound dressed turkey. We sold three shots for $1; any shot cutting the red line or inside won a turkey; distance, 300 yards, offhand, any gun with iron sights, limit three turkeys. Our own club members were barred from winning any turkeys in this shoot, because last fall Mr. Bashini, at Blanco, on the Monterey side of the bay, held his twenty-fifth annual turkey shoot, and about fifteen of the Santa Cruz Club members participated in the shoot. Johnston, Stanley, Falconer, Schmidt, and Roberts got two turkeys out of three shots each, while Captain Lutz, our range official, toed the firing line and hogged three turkeys in a row for his dollar. All told the Santa Crusans brought home more than forty turkeys; so naturally we could not stand any such a raid on our turkeys. We needed the money and had to be in the business to win. However, when there would be a lull in the shooting, two of our men would go in and shoot—usually Johnston and Stanley—who would repeatedly score two hits out of three shots. It looked so easy the old mountaineers would mutter, "If them two guys can hit them things, with old Springfield rifles, I can too"; so they would resmoke their old carbine sights and go at it again.

When the last gun was fired at sundown and old Thomas, the free gate prize, was raffled off it was found we had taken in more than $1,000. After paying for our turkeys, advertising, ground rent and other incidental expenses, we were $500 to the good. The committees did their work well, as a turkey shoot of this magnitude is no boy's job. We eliminated a lot of trouble, worry and unnecessary expense in handling the turkey proposition by giving out orders on Espandolas chain stores for dressed turkeys instead of trying to handle the live birds.

Through the co-operation of the city officials and the park commissioners we were permitted to locate our new range in the Delaveaga Park Heights, high and dry, away from ocean haze and smoke; so naturally we expect to shoot some real scores with the improved conditions this year. We have located here one of the best companies of Naval Reserves in the United States. In the past they had the free use of our range equipment; so the officers proposed that they co-operate with the club in constructing the new range. Their proposition was approved by the rifle club, and the range made large enough to accommodate both organizations.

We constructed one combined pit, butt and target house, to take care of three target carriers for the 500- and 600-yard ranges, and also the same equipment for the 200- and 300-yard ranges. Two squads can shoot at the same time without one interfering with the other. And for real sport we have the running deer bounding down through the pines at a distance of 150 yards. The deer target has proven a very interesting drawing card for our club, and has been the means of increasing our club membership to a very large extent.

The Santa Cruz Rifle Club, and the Naval Reserve Company here certainly have a beautiful range, close to town, easily accessible, and plenty of auto parking, plus picnicking space.

The Club is very much indebted to Captain Lutz for his untiring efforts in locating, laying out and superintending the construction of the new rifle range.

We celebrated the opening of our new range on July 15, with the 250th Coast Artillery officers' six-man team, and a team from the enlisted soldiers. The officers' team with their Camp Perry experience beat us out of 7 points. The enlisted men's team beat our inexperienced second team 80 points. It was their first experience in fast company, and they were a little nervous in the start. They will do better next time. It was a wonderful shoot. The Artillery boys are mighty good sports. The shoot was thoroughly enjoyed

by all, particularly the large gathering of spectators.

CONTRIBUTIONS TO 1928 INTERNATIONAL TEAM FUND

(Contributions received up to and including July 25)

Previously acknowledged	$780.16
C. R. K. Swetman, Prescott, Ariz.	5.00
Stuart Scott, New York, N. Y.	5.00
E. D. Seymour, Westfield, N. J.	2.00
Dan Sramek, Chicago, Ill.	10.00
Total	$802.16

ACTIVE NORRISTOWN CLUB READY TO SHOOT

THE Norristown Rifle Club is enjoying a very successful season on its outdoor range. The range is located across the river from Norristown on a very picturesque piece of ground. The rolling hills form a natural background for safe shooting of high-caliber rifles at 200, 300 and 500 yards. Matches have been held with the Frankford Arsenal Rifle Club, the Interboro Rifle Club and a number of National Guard organizations. A .22-caliber range and a pistol range are also established on the property.

The club would like to arrange matches with other organizations, and matches can be arranged for Saturday afternoons or Sundays. Any organization or group of men who can shoot are assured of a good day's sport, and an ideal picnic grounds with cold spring water makes an additional attraction for the rest of the family.

Anyone interested may arrange matches by communicating with—

HARRY E. STONE,
1025 W. Airy Street, Norristown, Pa.

KANSAS STATE SHOOT

By DR. JAMES LEHANE

ON MAY 13, 14 and 15 the Kansas State Rifle Association held its annual shoot on the National Range at Fort Riley, Kans. The first day was taken up with small-bore fire, both Junior and Senior Championships at stake. We had twenty-eight entrants shooting at 50, 100 and 200 yards.

Senior	*Prone, 50 yds.*	*Prone, 100 yds.*	*Prone, 200 yds.*	*Total*
W. S. Mayden	98 x 100	92 x 100	47 x 50	237
A. B. King	96	93	47	236
Ed. Smiley	95	96	45	236
R. E. McGarraugh	95	94	46	235
John Turnbull	92	96	47	235
Henry Fraser	93	95	46	234
Emil Zumbrunn	93	94	47	234
A. O. Flinner	96	93	44	233
Carl Chase	94	93	46	233
E. W. Bennett	94	93	45	232

JUNIOR CHAMPIONSHIP—.22-CALIBER

	50 yds.	*100 yds.*	*Total*
Edward Smiley	95	96	191 x 200
R. S. Rearwin	94	89	183
Bill Baker	87	88	175
Walter Barnes (13 yrs.)	55	67	122

W. S. Mayden won pistol championship—65 shooters.

OFFICIAL RECORD STATE CHAMPIONSHIP SHOOT, MAY 15, 1928.
(Regular Army qualification, Course A; possible 350)

Emil Zumbrunn,* Junction City	327
W. S. Smiley,† Junction City	324
John Acker, Junction City	323
E. A. Cole, Sparks	323
Dan Baker, Junction City	322
Gerald Kerr, Junction City	321
Earl Dundon, Junction City	320
E. A. Smiley, Junction City	319
Capt. R. E. McGarraugh, Manhattan	319
Lieut. Don Carlton, Junction City	319
E. W. Bennett, Manhattan	319
W. S. Noble, Highland	319
O. H. Correll, Manhattan	319

* State champion.
† Runner-up.

In the 1,000-yard match there were 44 entries.

1. Earl Dundon (Winner), Junction City.... 50 x 50
2. Dr. Smiley (Runner-up), Junction City... 48 x 50

In the team shoot Junction City's No. 1 team was high.

1st—Earl Dundon, Emil Zunnbrunn, Dr. W. A. Smiley, Dan Baker, Gerald Kerr } 1,614 x 1,750
2nd—13th Cavalry, 1,563 x 1,750

CIVILIANS BEAT CALIFORNIA GUARD TEAM

THE San Luis Obispo Rifle Club and the 184th Infantry Regiment of the California National Guard shot an interesting and closely contested shoulder-to-shoulder ten-man-team rifle match, fired on the range of the civilian club, as the new range of the 40th Division Training Camp, California National Guard, was not yet completed. The total scores were as follows: San Luis Obispo Rifle Club, 2,214; 184th Regiment of California National Guard, 2,200.

The range on the grounds of the Training Camp will be one of the finest in the West, according to the commanding officers, and will be the scene of divisional competitions and possibly tryouts for the civilian Camp Perry teams, as it is midway between large centers of population in San Francisco and Los Angeles.

The finest spirit of co-operation was shown by the officers and men of the Guard, which will go a long way toward promotion of civilian rifle practice.

The course fired was the Army Course D, with the exception that target A was used throughout for slow and rapid fire.

Captain Owens of the Guard and J. H. Perozzi of the civilians were high men of their units with scores of 228 and 241, respectively, out of a possible 250.

A silver cup was presented to the winners by Chief of Police Ballinger and Mr. Defosset, Commissioner of Public Safety of San Luis Obispo. This cup is to be for annual competition.

GLENDALE SHOOTING TOURNAMENT

THE Glendale Shooting Club held an open tournament at its range on Sugar Creek Road, Kirkwood, Mo., Sunday, July 1, 1928. The meet was well attended, some one hundred shooters attending, 40 different persons entering one or more of the matches, with a total of 183 entries and re-entries.

The tournament was featured by the exceptional shooting of F. C. Kimmel, president of the Mound City Rifle Club, who was high man in aggregate score of all rifle matches; a tight race between Sergeant E. Mannie, of the 138th Infantry; S. L. Beecher, of Mound City Rifle Club, and G. A. Ross, of Jefferson Barracks, in the .22-caliber pistol match; and by G. C. Olcott, of Webster Groves, who won the Lines Cup in the service pistol match, closely followed by Lieutenant Nick Bosch, of the St. Louis Police Department. The 50-yard small-bore rifle match, for lack of time, was not decided as to high man, ending in a three-cornered tie between Carl Myre, F. C. Kimmel and E. H. Conant.

In the 100-yard small-bore match, Kimmel beat out Williamson by an excellent group of X's.

As the 100-yard international small-bore match was something new, there were no exceptionally high scores, although the race was very close between F. C. Kimmel, Curt Beyer and W. C. Adams.

The 200-yard free-rifle match, carrying with it the Koerner Cup, was won by Sergeant Mannie, who was leading State free-rifle champion, O. L. Dyer, of Overland, Mo., just as the pit detail called it a day's work. The free-rifle match was shot on the 200-yard decimal target, also a new style target.

.22 CALIBER PISTOL MATCH

Sgt. E. Mannie, St. Louis, Mo.	89
S. L. Beecher, Mound City Rifle Club	85
G. A. Ross, Jefferson Barracks, Md.	85
F. Hill, St. Louis Police Department	81
G. C. Olcott, Webster Groves, Mo.	77

SERVICE PISTOL MATCH

G. C. Olcott, Webster Groves, Mo.	86
Lieut. Nick Bosch, St. Louis Police Department	84
S. L. Beecher, Mound City Rifle Club	83
Thamer Hill, St. Louis Police Department	82
Sgt. E. Mannie, St. Louis, Mo.	81

50-YARD SMALL-BORE MATCH

Carl Myre, Glendale Shooting Club	98
F. C. Kimmel, Mound City Rifle Club	98
E. H. Conant, 138th Infantry	98
Sgt. Williamson, 6th Infantry, Jefferson Barracks	97
Sgt. Summers, 6th Infantry, Jefferson Barracks	97

100-YARD SMALL-BORE MATCH

F. C. Kimmel, Mound City Rifle Club	98
Sgt. Williamson, 6th Infantry, Jefferson Barracks	98
Sgt. Summers, 6th Infantry, Jefferson Barracks	97
E. H. Conant, 138th Infantry	97
Carl Myre, Glendale Shooting Club	96

200-YARD FREE-RIFLE MATCH

Sgt. E. Mannie, St. Louis, Mo.	88
O. L. Dyer, Jefferson Barracks, Mo.	85
S. L. Beecher, Mound City Rifle Club	83
P. A. Cheek, Glendale Shooting Club	75
Dr. C. W. Schery, Glendale Shooting Club	74

DEWAR INDIVIDUAL MATCH

Carl Myre, Glendale Shooting Club	386
F. C. Kimmel, Mound City Rifle Club	382
W. C. Adams, Glendale Shooting Club	379
S. L. Beecher, Mound City Rifle Club	370

100-YARD INTERNATIONAL MATCH

F. C. Kimmel, Mound City Rifle Club	114
Curt Beyer, Glendale Shooting Club	113
W. C. Adams, Glendale Shooting Club	111
S. L. Beecher, Mound City Rifle Club	106
W. C. Linss, Glendale Shooting Club	90

INFANTRY PISTOL TEAM NOSES OUT BROOKLYN RIFLE CLUB

IN A HOTLY contested match at Miller Field, Staten Island, Sunday, July 8, with .45 auto.'s over the qualification course, the Brooklyn Rifle Club of Brooklyn, N. Y., was beaten by one point in a five-man-team match.

The conditions of the match were that any number of men up to ten could fire, the best 5 scores on each side to count.

Brooklyn Club fired nine men over the course; Miller Field, eight. This was our first match with this fine organization, and many friendships were created thereby on both sides, which opens the way for many future events.

The Miller Field Team was ably captained by First Lieutenant Erdman, and Brooklyn was piloted by Albert J. E. Shay, president of the Brooklyn Club. After the match Miller Field did the honors very proudly by setting up the losing team and their families to a fine dinner at the officers' mess.

The Brooklyn Rifle Club members who shot also had the advantage of their scores counting for qualification.

The outstanding performance of the day was the work of our beloved friend Lieut. David Twomey, of the New York Police and famed New York Police Team pistol shot. Second score was turned in by A. J. E. Shay, also of Brooklyn; and third to Lieutenant Erdman, of Miller Field.

Summary of match and qualification follow:

BROOKLYN RIFLE CLUB
(Team Captain, A. J. E. Shay)

	Slow per cent	Slow	15 yds., rapid	25 yds., rapid	Bobbers total
Lieut. D. Twomey	95.66	93	98	90	150-431
A. J. E. Shay	94.16	92	94	87	150-423
Lieut. J. T. Sayler	92.16	100	67	86	150-403
Dr. De F. T. Layton	86.66	96	85	79	130-390
L. I. King	78.94	81	87	78	110-356

Team total, 2,003.

MILLER FIELD
(Team Captain, Lieutenant Erdman)

Lieutenant Erdman	93	91	83	150-417
Wilcoxen	95	86	79	150-410
Capps	85	88	80	150-403
Vosberg	84	88	78	150-400
Stika	87	83	64	140-374

Team total, 2,004.

RICHMOND CAPTURES LEGION PLAQUE

RAY RICHMOND, World War veteran from Lima, shot his way through to win the American Legion Trophy Plaque on the range of the Bluffton Rifle Club, July 4. His score of 192 points out of a possible 200—10 shots at 50 yards and 10 shots at 100 yards, prone with iron sights—tied the winning score of D. C. Place, Lima, in 1926. Noble L. Martin, Lima, who won the trophy last year with 188 points, shot the same score this year in defending the plaque.

ALABAMA LOSES TO IOWA

IOWA took the standing match from Alabama by a wide margin. Alabama was the first State to answer Iowa's challenge, which appeared in the April issue of the RIFLEMAN.

The scores of the winning team were as follows:

Edward Muhl	482	S. J. Lanning	458
Mike Altman	476	A. J. Larson	457
John Altman	465	Alfred K. Friedrich	454
Nick Altman	462	Gus Muhl	451
E. L. Grundmeier	462		
C. T. Westergaard	461	Total	4,628

The highest Alabama score was 457. The complete scores for Alabama can not be given, as their targets were lost in the mail.

The Iowa team is now practicing for the match with Pennsylvania.

JEFFERSON SPORTSMEN HOLD COUNTY CHAMPIONSHIP MATCH

OUR Club is only five and a half months old and we have a membership of 61. We are now trying to buy a tract of ground with 127 acres on it, and I think we will make a go of it, too. We will be able to get ranges from 20 to 500 yards, bordered on one side by a nice creek, with good swimming and camping sites, and we will be the only rifle club in this county that ever owned its own ground.

The Jefferson County Shoot was delayed until Saturday, July 14, on account of bad weather conditions. There were 21 shooters entered in the match. We shot relays of 7 men at a time. The light was continually changing, with frequent showers; consequently the scores were very poor. Bickerstaff won first place with 84, Mr. Frank Drayer second with 81, Mr. B. Busch third with 79, and Mr. B. Cottrell fourth with 76. I believe this is the first time a shoot of this kind was ever held in this county, and we are going to try and have it every year from now on.

Our Club is open for shoots with any other club on the following ranges: 50, 100, 150 and 200 yards, in any positions. I am trying to get some of the boys to go over to the Ohio Rifle League Shoot, Sunday, July 29, at the Sunrise Rifle Club Range, near Canal Fulton, with me, and I think that some of us will be there.

Official Bulletins N. R. A. Outdoor Matches

BULLETIN NO. 12—JULY 17, 1928

AMERICAN INDIVIDUAL DEWAR MATCH—91 ENTRIES

Conditions: Open to all. Twenty shots at 50 yards and at 100 yards; metallic sights. To the winner a gold medal; second to tenth, bronze medals. Three tyro medals in addition.

	Name and Address	*Score*
1.	Garfield Bernhardt, Sandwich, Ill.	396
2.	Dr. Carl Wahrer, Sacramento, Calif.	395
3.	T. Randle, Fort Worth, Tex.	394
4.	W. K. Ballough, Daytona Beach, Fla.	394
5.	Axel Sidenblad, Morris, Minn.	394
6.	M. R. Coleman, Pittsburgh, Pa.	393
7.	Harry E. Brill, Tulsa, Okla.	393
8.	Jas. L. Stewart, New Haven, Conn.	392
9.	Fred Johansen, Joliet, Ill.	392
10.	Vere Homer, Primghar, Iowa	391
11.	Donald Mercer, Upper Darby, Pa.	391
12.	W. S. Gibbons, Melrose, Mass.	390
13.	T. T. McClure, Santa Monica, Calif.	390
14.	Sherwin Murphy, Chicago, Ill.	390
15.	C. W. White, Covina, Calif.	390
16.	Orlen Royce, Seaside, Oreg.	390
17.	Wm. L. Stephens, Jr., Moore, Pa.	390
18.	Edson Klinkel, Toledo, Ohio	390
19.	L. C. Turner, Fort Worth, Tex.	389
20.	Jerry Gebby, Bellefontaine, Ohio	388
21.	S. B. Thomas, Fort Worth, Tex.	388
22.	Frank Rogers, New Haven, Conn.	388
23.	Howard Keene, W. Medford, Mass.	387
24.	Percy Kittridge, North Adams, Mass.	387
25.	P. A. Shepherd, N. Plainfield, N. J.	387
26.	Walter Kelsey, Tarrytown, N. Y.	385
27.	Alfred Friedrich, Ames, Iowa	385
28.	J. H. Perozzi, San Luis Obispo, Calif.	385
29.	Geo. Benvie, Hatch, N. Mex.	385
30.	R. P. Patterson, Fort Worth, Tex.	384
31.	Geo. Lindgren, Lyons, Ill.	384
32.	Robt. Berner, Dayton, Ohio	384
33.	Richard Dunlap, Sapulpa, Okla.	383
34.	P. A. Durbin, Walnut Grove, Calif.	383
35.	Wm. E. Trull, Mt. Vernon, N. Y.	383
36.	H. J. Gussman, New Haven, Conn.	383
37.	E. M. Farris, Portsmouth, Ohio	382
38.	Harry Morrell, New Haven, Conn.	382
39.	Dr. T. E. Boone, Dinuba, Calif.	382
40.	Neil W. Smith, Ft. Worth, Tex.	380
41.	Walton Anderson, Gearhart, Oreg.	380
42.	Roswell Skeen, Lakewood, Ohio	380
43.	Herbert D. Smith, Youngstown, Ohio	378
44.	L. E. Klein, Massillon, Ohio	378
45.	S. F. Benfer, Toledo, Ohio	378
46.	Woodfin G. Jones, Jacksonville, Fla.	378
47.	W. D. Ricks, Ft. Worth, Tex.	377
48.	E. M. Kidder, Ayer, Mass.	376
49.	Frank L. Yoran, Tarrytown, N. Y.	375
50.	Leslie Homer, Primghar, Iowa	371
51.	J. C. Drake, Portsmouth, Ohio	369
52.	R. W. Hawthorne, Elgin, Ill.	369
53.	Robt. B. Hindman, Colliers, W. Va.	367
54.	Johnnie Klink, Primghar, Iowa	367
55.	J. A. Brown, Los Angeles, Calif.	363
56.	C. E. Edwards, Norfolk, Nebr.	360
57.	F. B. Naill, Ft. Worth, Tex.	360
58.	Paul Russell, Tarrytown, N. Y.	360
59.	Earl G. Evans, Pocatello, Idaho	358
60.	E. E. Sellers, Adamsville, Ala.	358
61.	Fred H. Hartley, Vineland, N. J.	345
62.	Raymond Drage, Vineland, N. J.	306

DISQUALIFIED
(Used telescopic sight)

63. Claude R. Brong, Allentown, Pa.

TARGETS RETURNED

64. B. W. Schlagheck, Kings Mills, Ohio
65. Carl A. Du Nah, Pasadena, Calif.

NOT REPORTED

66. Hatton J. Martin, Monterey, Calif.
67. Irwin Reynolds, Los Angeles, Calif.
68. Robt. G. Martin, Beverly Hills, Calif.
69. J. C. Root, Akron, Ohio
70. Chief Keotah, Oklahoma City, Okla.
71. Roy Anselm, Kansas City, Mo.
72. J. F. Woolshlager, Castorland, N. Y.
73. Max Wagner, Minneapolis, Minn.
74. Leonard Berggren, Alexandria, Minn.
75. C. A. Witt, Fort Worth, Tex.
76. A. L. Knight, Fort Worth, Tex.
77. John F. Utter, Fort Worth, Tex.
78. Carl S. Mundy, Toledo, Ohio
79. Lovell Page, Hamden, Conn.
80. A. J. Dickerson, Akron, Ohio
81. Richard M. Johnston, Erie, Pa.
82. Col. C. E. Stodter, Canal Zone
83. G. A. Hughes, Youngstown, Ohio
84. John Harness, Dinuba, Calif.
85. N. E. Stringer, Dinuba, Calif.
86. F. C. Kimmel, St. Louis, Mo.
87. James T. Somers, Sandersville, Ga.
88. J. C. Bernier, Selma, Calif.
89. Chas. M. Stockman, Bedford, Ohio
90. Geo. O. Snow, Sacramento, Calif.
91. H. D. Wilber, Loch Muller, N. Y.

BULLETIN NO. 13—JULY 17, 1928

200-YARD SMALL-BORE SPRING CHAMPIONSHIP—72 ENTRIES

Conditions: Open to all. Twenty shots at 200 yards (C5 target); any sights. To the winner a gold medal; a silver medal to the high competitor using iron sights. Nine bronze medals to the remaining nine highest; in addition 3 tyro medals.

	Name and Address	*Score*
1.	A. Q. Johnson, Long Beach, Calif.	100 20v
2.	T. K. Lee, Birmingham, Ala.	100 19v
3.	Garfield, Bernhardt, Sandwich, Ill.	100 18v
4.	Chas. E. Schofield, Ortonville, Minn.	100 17v
5.	Dr. Carl Wahrer, Sacramento, Calif.	100 17v
6.	Leon Dezert, Pasadena, Calif.	100 16v
7.	E. F. Burkins, Wilmington, Del.	100 16v
8.	Claude Brong, Allentown, Pa.	100 13v
9.	Axel G. Sidenblad, Morris, Minn.	99
10.	Chas. V. Smith, Beaver Falls, Pa.	99
11.	G. Westinghouse, Santa Barbara, Calif.	99
12.	Lieut. G. B. Davidson, Lebanon, Va.	98
13.	Carl Du Nah, Pasadena, Calif.	98
14.	Harry E. Brill, Tulsa, Okla.	98
15.	W. H. Delbruegger, Bend, Oreg.	98
16.	Paul Oschida, Sandwich, Ill.	98
17.	C. S. Landis, Wilmington, Del.	98
18.	Robt. Hindman, Colliers, W. Va.	97
19.	H. W. T. Ross, Santa Barbara, Calif.	97
20.	Fred Johansen, Joliet, Ill.	97
21.	Dr. Ralph Statler, Allentown, Pa.	96
22.	Leslie Homer, Primghar, Iowa	96
23.	E. M. Farris, Portsmouth, Ohio	96
24.	Edson Klinkel, Toledo, Ohio	96
25.	Jack Frost, Klamath Falls, Oreg.	96
26.	Jerry Gebby, Bellefontaine, Ohio	96
27.	H. H. Jacobs, Dayton, Ohio	96
28.	Nick Limpach, Solon Springs, Wis.	96
29.	Lt.-Col. W. G. Jones, Jacksonville, Fla.	95
30.	R. H. Davis, Selma, Calif.	95
31.	Richard Dunlap, Sapulpa, Okla.	95
32.	W. L. Montgomery, Avinger, Tex.	95
33.	L. J. Alley, Plymouth, Wis.	95
34.	C. Willard White, Covina, Calif.	94
35.	R. A. Durbin, Walnut Grove, Calif.	94
36.	G. A. Lindgren, Lyons, Ill.	94
37.	N. M. Austin, Seattle, Wash.	94
38.	L. E. Klein, Massillon, Ohio	93
39.	Sherwin Murphy, Chicago, Ill.	93
40.	C. M. Feil, Massillon, Ohio	93
41.	Earl C. Evans, Pocatello, Idaho	93
42.	S. F. Benfer, Toledo, Ohio	93
43.	Paul Shepherd, N. Plainfield, N. J.	92
44.	Kenneth Wright, Chanute, Kans.	92
45.	E. C. McCune, Pocatello, Idaho	92
46.	Frank W. Rogers, New Haven, Conn.	92
47.	Henry Van Winkle, S. Barbara, Calif.	92
48.	O. B. Malkan, Klamath Falls, Oreg.	91
49.	W. S. Gibbons, Melrose, Mass.	91
50.	R. W. Hawthorne, Elgin, Ill.	90
51.	Norman Sterrett, Beaver Falls, Pa.	90
52.	Herbert D. Smith, Youngstown, Ohio	89
53.	Walter F. Smith, Klamath Falls, Oreg.	87
54.	Homer Nelson, Chanute, Kans.	87
55.	Geo. Wiedmaier, Dunkirk, N. Y.	84
56.	Andrew Nelson, Chanute, Kans.	84

TARGETS RETURNED

57. B. W. Schlagheck, Kings Mills, Ohio.

NOT REPORTED

58. Frank E. Smith, Tulsa, Okla.
59. Leonard Berggren, Alexandria, Minn.
60. A. J. Dickerson, Akron, Ohio
61. Wm. E. Trull, Mt. Vernon, N. Y.
62. Richard Johnston, Erie, Pa.
63. Col. C. E. Stodter, Canal Zone
64. Theo Wingertszahn, Dunkirk, N. Y.
65. Ivan Whiting, Plymouth, Wis.
66. Chas. M. Stockman, Bedford, Ohio
67. J. W. Aitken, Overly, N. Dak.
68. H. D. Wilber, Loch Muller, N. Y.
69. W. C. Adams, St. Louis, Mo.
70. A. K. Friedrich, Ames, Iowa
71. Francis Fultz, Santa Barbara, Calif.
72. Hugh H. Rife, Tulsa, Okla.
73. Dr. J. C. Root, Akron, Ohio
74. Hatton J. Martin, Monterey, Calif.
75. J. H. Perozzi, San Luis Obispo, Calif.

76. G. A. Hughes, Youngstown, Ohio
77. Max Wagner, Minneapolis, Minn.

BULLETIN NO. 14—JULY 17, 1928

SMALL-BORE TWO-MAN-TEAM MATCH—30 ENTRIES

Conditions: Open to all. Twenty shots at 50 yards and at 100 yards, each man; any sights. Silver medals to the winning team; second to tenth teams, bronze medals.

Name and Address	*Score*	
1. Eric Johnson, Meriden, Conn.	396	
Edgar J. Doyle, Meriden, Conn.	396	792
2. James Stewart, New Haven, Conn.	390	
Frank W. Rogers, New Haven, Conn.	400	790
3. Chas. E. Scofield, Morris, Minn.	397	
A. G. Sidenblad, Morris, Minn.	391	788
4. C. S. Landis, Wilmington, Del.	389	
E. F. Burkins, Wilmington, Del.	395	784
5. Leon Dezert, Pasadena, Calif.	396	
Carl A. Du Nah, Pasadena, Calif.	387	783
6. Hugh H. Rife, Tulsa, Okla.	395	
Frank E. Smith, Tulsa, Okla.	385	780
7. Norman Sterret, Beaver Falls, Pa.	387	
Chas. V. Smith, Beaver Falls, Pa.	393	780
8. Garfield Bernhardt, Sandwich, Ill.	394	
Paul Oschida, Sandwich, Ill.	386	780
9. Walter G. Crabb, Manchester, Iowa	395	
P. R. Lillibridge, Manchester, Iowa	385	780
10. Jerry Gebby, Bellefontaine, Ohio	393	
Raymond Braden, Bellefontaine, Ohio	387	780
11. Harry W. T. Ross, S. Barbara, Calif.	392	
Henry Van Winkle, S. Barbara, Calif.	388	780
12. Wm. E. Trull, Mt. Vernon, N. Y.	390	
Geo. Demeter, Mt. Vernon, N. Y.	386	776
13. Wallon Anderson, Gearhart, Oreg.	386	
Orlen Royce, Seaside, Oreg.	386	772
14. W. H. Tillman, Erie, Pa.	385	
Roy A. Loder, Erie, Pa.	386	771
15. Harry Morrell, New Haven, Conn.	381	
Henry Hussman, New Haven, Conn.	389	770
16. Helm C. Hussner, Appleton, Wis.	380	
E. F. Grundeman, Appleton, Wis.	388	768
17. Leslie Homer, Primghar, Iowa	383	
O. R. Homer, Primghar, Iowa	384	767
18. Ernest Kietz, Etna, Pa.	370	
Emory Hadil, Etna, Pa.	387	766
19. G. A. Hughes, Youngstown, Ohio	388	
Herbert Smith, Youngstown, Ohio	374	762
20. W. L. Montgomery, Avinger, Tex.	386	
J. H. Avinger, Avinger, Tex.	374	760
21. F. D. Hickok, Bradford, Pa.	386	
J. K. Thamm, Bradford, Pa.	371	757
22. L. E. Klein, Massillon, Ohio	381	
C. M. Feil, Massillon, Ohio	371	752
23. Wilbur C. Adams, St. Louis, Mo.	382	
Wilfred C. Linss, St. Louis, Mo.	364	746
24. Ivan Whiting, Plymouth, Wis.	378	
Lee J. Alley, Plymouth, Wis.	367	745
25. Geo. Westinghouse, S. Barbara, Calif.	372	
W. H. Thompson, S. Barbara, Calif.	373	735
26. Jno. Finlay, Chicago, Ill.	185	
Frank D. Wheeler, Chicago, Ill.	382	567

DID NOT FINISH

27. Dick H. Roberts, Miami, Okla.
Ellis Smithley, Miami, Okla.

NOT REPORTED

28. L. P. Clubine, Aurora, Iowa
E. D. Matteson, Aurora, Iowa
29. Dr. J. C. Root, Akron, Ohio
A. J. Dickerson, Akron, Ohio
30. A. K. Friedrich, Ames, Iowa
K. M. Friedrich, Ames, Iowa

BULLETIN NO. 15—JULY 17, 1928

DEWAR COURSE TWO-MAN-TEAM MATCH—31 ENTRIES

Conditions: Open to all. Twenty shots at 50 yards and at 100 yards, each man; metallic sights. Silver medals to the winning team; second to tenth teams, bronze medals.

Name and Address	*Score*	
1. Clifford Golder, Upper Darby, Pa.	397	
Donald Mercer, Upper Darby, Pa.	389	786
2. Harry E. Brill, Tulsa, Okla.	394	
Richard Dunlap, Tulsa, Okla.	389	783
3. Edson Klinkel, Toledo, Ohio	393	
Sylvin F. Benfer, Toledo, Ohio	390	783
4. Jas. Stewart, New Haven, Conn.	391	
Frank S. Rogers, New Haven, Conn.	391	782
5. E. M. Farris, Portsmouth, Ohio	388	
Z. E. Fraley, Portsmouth, Ohio	392	780
6. Harry Morrell, New Haven, Conn.	386	
H. J. Gussman, New Haven, Conn.	388	774
7. Vere Homer, Primghar, Iowa	381	
Leslie Homer, Primghar, Iowa	392	773
8. J. H. Perozzi, San Luis Obispo, Calif.	386	
Fred Elliott, San Luis Obispo, Calif.	386	772
9. Walton Anderson, Gearhart, Oreg.	382	
Orlen Royce, Seaside, Oreg.	389	771
10. T. T. McClure, Santa Monica, Calif.	387	
Robt. Weir, Hollywood, Calif.	383	770
11. W. H. Tillman, Erie, Pa.	384	
Roy A. Loder, Erie, Pa.	384	768
12. Warren C. Tarr, Carmel, Calif.	388	
Hatton J. Martin, Carmel, Calif.	380	768
13. S. H. Hart, Pasadena, Calif.	381	
Carl A. Du Nah, Pasadena, Calif.	385	766
14. Wm. E. Trull, Mt. Vernon, N. Y.	379	
Joseph J. Palme, Mt. Vernon, N. Y.	385	764
15. Lester Chesire, Sacramento, Calif.	378	
Robt. Durbin, Sacramento, Calif.	377	755
16. Frank L. Yoran, Tarrytown, N. Y.	373	
Paul Russell, Tarrytown, N. Y.	380	752
17. O. B. Mackan, Klamath Falls, Oreg.	379	
Walt Smith, Klamath Falls, Oreg.	370	749
18. Fred Johansen, Joliet, Ill.	380	
Helge Johnson, Joliet, Ill.	369	749
19. K. K. Neeman, Ann Arbor, Mich.	369	
G. W. Lutz, Ann Arbor, Mich.	380	749
20. W. L. Stanley, Santa Cruz, Calif.	364	
Paul Johnson, Santa Cruz, Calif.	380	744
21. L. E. Klein, Massillon, Ohio	371	
C. M. Feil, Massillon, Ohio	368	739
22. Homer Elliott, San Luis Obispo, Calif.	365	
Geo. Elliott, San Luis Obispo, Calif.	364	729
23. B. W. Rightmier, Modesto, Calif.	358	
H. G. Folk, Modesto, Calif.	355	713
24. Raymond Gage, Vineland, N. J.	341	
Fred Hartley, Vineland, N. J.	342	683

TARGETS RETURNED

25. S. H. Hart, Pasadena, Calif.
Carl A. Du Nah, Pasadena, Calif.

NOT REPORTED

26. J. W. Aitken, Overly, N. Dak.
Roy Erickson, Thief River Falls, Minn.
27. Irwin Reynolds, Los Angeles, Calif.
J. A. Brown, Los Angeles, Calif.
28. A. J. Dickerson, Akron, Ohio.
29. Donald Eaton, Bluffton, Ind.
James Redding, Bluffton, Ind.
30. Jerry Gebby, Bellefontaine, Ohio
Raymond Braden, Bellefontaine, Ohio
31. Carl B. Myre, St. Louis, Mo.
Edwin J. Pelikan, St. Louis, Mo.

BULLETIN NO. 16—JULY 17, 1928

1000-YARD INDIVIDUAL MATCH—22 ENTRIES

Conditions: Open to all. Twenty shots at 1000 yards; any sights. To the winner a gold medal; a silver medal to the high competitor using the Service Rifle "as issued"; to the remaining highest nine competitors bronze medals. Three tyro medals.

Name and Address	*Score*
1. Frank E. Bryson, Jacksonville, Fla.	97
2. A. F. Marvin, Seattle, Wash.	96
3. Jas. R. Doyne, Oakland, Calif.	96
4. Richard Throssel, Billings, Mont.	96
5. R. Zekdebryst, Seattle, Wash.	96
6. Woodfin Jones, Jacksonville, Fla.	95
7. N. M. Austin, Seattle, Wash.	95
8. Earl G. Evans, Pocatello, Idaho	93
9. J. B. McAdams, Seattle, Wash.	90
10. O. T. D. Brandt, Seattle, Wash.	90
11. J. H. Perozzi, San Luis Obispo, Calif.	89
12. Wm. McNamee, Jacksonville, Fla.	87
13. J. H. McDiarmid, Seattle, Wash.	84

NOT REPORTED

14. Sgt. Geo. Wolfen, Ft. Hancock, N. J.
15. Geo. B. Soule, Seattle, Wash.
16. Howard M. Beck, Seattle, Wash.
17. Lt. G. B. Davidson, Lebanon, Va.
18. Herbert D. Smith, Youngstown, Ohio
19. S. C. Williams, Oakland, Calif.
20. Col. C. E. Stodter, Canal Zone
21. Richard Wilzewski, Ft. Riley, Kans.
22. Richard Strauss, Detroit, Mich.

BULLETIN NO. 17—JULY 17, 1928

INDIVIDUAL 600-YARD MATCH—45 ENTRIES

Conditions: Open to all. Twenty shots at 600 yards, slow fire; any sights. To the winner a gold medal; second to tenth, bronze medals. Three tyro medals in addition.

Name and Address	*Score*
1. Wm. McNamee, Jacksonville, Fla.*	100
2. L. A. Pope, 532 Ysidora, Los Angeles, Calif.†	100
3. Frank E. Bryson, Jacksonville, Fla.	99
4. Thos. Girkout, Gatun, Canal Zone	99
5. Woodfin Jones, Jacksonville, Fla.	98
6. Frank E. Smith, Tulsak, Okla.	98
7. Emil J. Koby, Ft. Adams, R. I.	98
8. Jas. S. Stewart, New Haven, Conn.	98
9. Chester Phelps, Burbank, Calif.	98
10. T. R. French, Casper, Wyo.	97
11. Le Roy Coursey, Antioch, Calif.	97
12. Sgt. Geo. G. Wolfen, Ft. Hancock, N. J.	97
13. Richard Throssel, Billings, Mont.	97
14. Dudley S. Seymour, Oak Park, Ill.	96
15. J. H. McDiarmid, Seattle, Wash.	96
16. Emmet D. Swanson, Minneapolis, Minn.	96
17. Dr. L. B. Weatherbee, Antioch, Calif.	96
18. J. H. Perozzi, San Luis Obispo, Calif.	95
19. Nick Limpach, Solon Springs, Wis.	94
20. Chester Derity, Toledo, Ohio	91
21. G. F. Glasgow, Chicago, Ill.	91
22. O. E. Gerrish, Walden, Mass.	90
23. Earl G. Evans, Pocatello, Idaho	88
24. Herbert Brunton, Walden, Mass.	88
25. Edgar Davis, Cambridge, Mass.	84

* Plus 4 bulls † Plus 2 bulls

DID NOT SHOOT, SCORE CARD RETURNED

26. E. L. Nelson
27. Paul R. Neal, Greenleaf, Kans.
28. Harvey Chism, Denver, Colo.

NOT REPORTED

29. Howard M. Beck, Seattle, Wash.
30. Lt. G. B. Davidson, Lebanon, Va.
31. Alvin R. Bodenschatz, San Jose, Calif.
32. Geo. B. Soule, Seattle, Wash.
33. Chief Keotah, Oklahoma City, Okla.
34. Hatton J. Martin, Monterey, Calif.
35. Richard Strauss, Detroit, Mich.
36. Walter L. Seamons, Casper, Wyo.
37. Richard Wilzewski, Ft. Riley, Kans.
38. Chas. M. Stockman, Bedford, Ohio
39. Col. C. E. Stodter, Balboa, Canal Zone
40. S. C. Williams, Oakland, Calif.
41. Fred Johansen, Joilet, Ill.
42. G. H. Collins, San Antonio, Tex.
43. Carl S. Mundy, Toledo, Ohio
44. Jas. R. Doyne, Oakland, Calif.
45. Geo. W. Benvie, Hatch, N. Mex.

BULLETIN NO. 18—JULY 17, 1928

HIGH-POWER TWO-MAN-TEAM MATCH

Conditions: Open to all teams of two. Twenty shots each man at 200 yards standing and at 600 yards, prone; metallic sights. To the winning team silver medals; second to tenth teams, bronze medals.

Name and Address	*Score*	
1. C. E. Nordhus, Highland Park, Ill.	185	
S. D. Monahan, Highland Park, Ill.	187	372
2. Sgt. Jos. Smith, Ft. Ontario, N. Y.	188	
Sgt. Lee G. Leper, Ft. Ontario, N. Y.	183	371
3. Dr. L. B. Weatherbee, Antioch, Calif.	184	
L. J. Vanderbundt, Antioch, Calif.	186	370
4. Lt. Col. W. G. Jones, Jacksonville, Fla.	186	
Wm. McNamee, Jacksonville, Fla.	180	366
5. J. B. McAdams, Seattle, Wash.	176	
J. H. McDiarmid, Seattle, Wash.	189	365
6. J. H. Perozzi, San Luis Obispo, Calif.	184	
P. Nebranti, San Luis Obispo, Calif.	181	365
7. E. Narammore, Bridgeport, Conn.	190	
W. J. Melia, Bridgeport, Conn.	174	364
8. Chester A. Dority, Toledo, Ohio	180	
Arron Smith, Toledo, Ohio	182	362
9. Lt. F. M. Whiddon, Jacksonville, Fla.	179	
Lt. R. N. Hill, Jacksonville, Fla.	174	353
10. Homer Elliott, San Luis Obispo, Calif.	184	
Geo. Elliott, San Luis Obispo, Calif.	169	353
11. Sgt. G. W. Sears, Jacksonville, Fla.	182	
N. S. Thayer, Jacksonville, Fla.	168	350
12. Sgt. S. B. Kitchen, Jacksonville, Fla.	172	
Sgt. J. A. Johnson, Jacksonville, Fla.	175	347
13. Sgt. H. E. Hare, Jacksonville, Fla.	165	
C. R. Roberts, Jacksonville, Fla.	169	334
14. Earl G. Evans, Pocatello, Idaho	168	
Geo. Martz, Pocatello, Idaho	156	324

NOT REPORTED

15. Sgt. W. J. Thomas, Jacksonville, Fla.
Sgt. W. H. Price, Jacksonville, Fla.
16. Jas. S. Stewart, New Haven, Conn.
Frank W. Rogers, New Haven, Conn.

BULLETIN NO. 19—JULY 18, 1928

INDIVIDUAL POLICE PISTOL MATCH—33 ENTRIES

Conditions: Open to police officers, duly appointed deputies, etc. Ten shots slow fire, 10 timed fire (S. A. 50-yard target), and 10 quick fire (Silhouette—Kill Zone—target); range, 25 yards. To the winner a gold medal; a silver medal to the runner up; third to tenth, bronze medals; and in addition the appropriate police qualification insignia (felt) to all qualifying.

Name and Address	*Score*
1. R. J. Nowka, Los Angeles, Calif.	248
2. C. E. Ward, Los Angeles, Calif.	248
3. O. D. Cox, Dante, Va.	247
4. Geo. A. Marshall, Portland, Ore.	246
5. Jas. F. Engert, Herkimer, N. Y.	245
6. Thos. Girkout, Gatun, Canal Zone	244
7. Jim Barlow, Halstead, Kans.	243
8. H. A. Murphy, Pasadena, Calif.	240
9. Albert Bowker, Wentworth, Location, N. H.	240
10. Jno. A. Bartley, Los Angeles, Calif.	239
11. G. Buchanan, Los Angeles, Calif.	239
12. O. L. Peterson, Los Angeles, Calif.	239
13. S. S. Stone, Los Angeles, Calif.	237
14. J. E. Davis, Los Angeles, Calif.	235
15. A. E. Hortzler, Halstead, Kans.	231
16. Oliver Yanick, St. Louis, Mo.	228
17. Tony Matysek, Saner, Wis.	228
18. N. H. Phillip, St. Louis, Mo.	225
19. Frank M. Matkin, St. Louis, Mo.	224
20. Daniel F. Cain, Buffalo, N. Y.	222
21. Frank W. Evans, St. Louis, Mo.	222
22. Renny Nichols, Buffalo, N. Y.	221
23. Nick Bosch, Jr., St. Louis, Mo.	220
24. Levi Copeland, St. Louis, Mo.	219
25. Chas. M. Hallett, St. Louis, Mo.	217
26. Jas. L. Connolly, Buffalo, N. Y.	207
27. Glenn H. McClellan, Buffalo, N. Y.	206
28. Fred G. Schell, Buffalo, N. Y.	204

NOT REPORTED

29. L. P. Clubine, Aurora, Iowa
30. Oscar H. Klein, New York City
31. Chas. R. Burdette, Baltimore, Md.
32. Mark G. Stewart, Shreveport, La.
33. W. H. Womack, Shreveport, La.

BULLETIN NO. 20—JULY 17, 1928

INDIVIDUAL RAPID-FIRE MATCH—28 ENTRIES

Conditions: Forty shots rapid fire at 25 yards. To the winner a silver medal; second to tenth, bronze medals.

Name and Address	*Score*
1. R. J. Nowka, Los Angeles, Calif.	389
2. Geo. A. Marshall, Portland, Oreg.	387
3. O. D. Cox, Dante, Va.	387

4. C. E. Ward, Los Angeles, Calif..... 385
5. Lt. G. B. Davidson, Lebanon, Va..... 382
6. S. S. Stone, Los Angeles, Calif..... 377
7. Jim Barlow, Halstead, Kans..... 373
8. Dr. R. T. Statler, Allentown, Pa..... 371
9. O. L. Peterson, Los Angeles, Calif..... 369
10. A. E. Hartzler, Halstead, Kans..... 369
11. G. Buchanan, Los Angeles, Calif..... 364
12. A. L. Bowker, Wentworth Location, N. H. 364
13. P. A. Shepherd, N. Plainfield, N. J..... 363
14. Edgar W. Davis, Cambridge, Mass..... 360
15. Jno. A. Bartle, Los Angeles, Calif..... 358
16. Herbert R. Brunton, Walden, Mass..... 358
17. J. E. Davis, Los Angeles, Calif..... 357
18. Daniel F. Cain, Buffalo, N. Y..... 351
19. Kenneth W. Wright, Chanute, Iowa..... 343
20. W. L. Darling, Boston, Mass..... 346
21. W. S. Gibbons, Melrose, Mass..... 342
22. G. A. Hughes, Youngstown, Ohio..... 342
23. Andrew Nelson, Chanute, Kans..... 339
24. Howard G. Keene, W. Medford, Mass..... 337
25. R. Z. Kirkpatrick, Balboa, Canal Zone..... 335
26. J. M. Standish, Seattle, Wash..... 334

NOT REPORTED

27. Oscar H. Klein, New York City
28. Albert Lane, Fort Hancock, N. J.

BULLETIN NO. 21—JULY 18, 1928

N. R. A. INDIVIDUAL SPRING PISTOL CHAMPIONSHIP—39 ENTRIES

Conditions: Open to all. Ten shots slow fire (50 yards), 10 timed, and 10 rapid (25 yards). Service pistol. To the winner a gold medal; a silver medal to the runner-up; third to tenth, bronze medals.

NOTE.—Medals in this match are being held pending a further investigation of the winning and runner-up scores.

Name and Address	*Score*
1. Chas. W. Sales, Salt Lake City, Utah	289
2. Lt. G. B. Davidson, Lebanon, Va.	281
3. Jno. A. Bartley, Los Angeles, Calif.	272
4. P. A. Shepherd, N. Plainfield, N. J.	271
5. Richard Wilzewski, Ft. Riley, Kans.	269
6. G. Buchanan, Los Angeles, Calif.	266
7. Jim Barlow, Halstead, Kans.	263
8. Earl L. Nelson, Seattle, Wash.	259
9. G. A. Hughes, Youngstown, Ohio	257
10. A. E. Hertzler, Halstead, Kans.	251
11. O. L. Peterson, Los Angeles, Calif.	245
12. C. E. Ward, Los Angeles, Calif.	239
13. Jacob Bernson, Ancon, Canal Zone	237
14. Harry E. Harr, Seattle, Wash.	237
15. L. C. Turner, Fort Worth, Tex.	236
16. J. H. Perozzi, San Luis Obispo, Calif.	234
17. Herbert R. Brunton, Walden, Mass.	233
18. Howard G. Keene, W. Medford, Mass.	233
19. Harvey Chism, Denver, Colo.	233
20. R. J. Nowka, Los Angeles, Calif.	230
21. Edgar W. Davis, Cambridge, Mass.	226
22. J. E. Davis, Los Angeles, Calif.	224
23. C. E. Faunt Leroy, San Luis Obispo, Calif.	223
24. Lawrence M. Carter, Ft. Huachuca, Ariz.	222
25. S. S. Stone, Los Angeles, Calif.	221
26. LeRoy S. Townsend, Balboa, Canal Zone	216
27. Geo. Claussen, Ft. Huachuca, Ariz.	210
28. Max Wagner, Minneapolis, Minn.	199
29. Hatton J. Martin, Monterey, Calif.	149

DISQUALIFIED

(Did not use Service Pistol)

30. Max Wagner, Minneapolis, Minn.
31. W. S. Gibbons, Melrose, Mass.

NOT REPORTED

32. Earl Naramore, Bridgeport, Conn.
33. Chas. R. Burdette, Baltimore, Md.
34. R. A. Compton, Balboa, Canal Zone
35. Sgt. Jos. Smith, Fort Ontario, N. Y.
36. Albert L. Lane, Fort Hancock, N. Y.
37. Oscar H. Klein, New York, N. Y.
38. L. C. Turner, Fort Worth, Tex.
39. J. L. Darling, Boston, Mass.

BULLETIN NO. 22—JULY 18, 1928

N. R. A. SPRING REVOLVER CHAMPIONSHIP—39 ENTRIES

Conditions: Open to all. Ten shots slow fire (50 yards), 10 timed, and 10 rapid (25 yards). Any revolver; .32 or larger. To the winner a gold medal; a silver medal to the runner-up; third to tenth, bronze medals.

Name and Address	*Score*
1. Lieut. G. B. Davidson, Lebanon, Va.	288
2. Dr. Carl Wahrer, Sacramento, Calif.	287
3. Chas. W. Sales, Salt Lake City, Utah	287
4. C. E. Ward, Los Angeles, Calif.	286
5. R. J. Novka, Los Angeles, Calif.	283
6. Harry S. Menkel, New York City	283
7. Geo. A. Marshall, Portland, Oreg.	282
8. J. F. Engert, Herkimer, N. Y.	281
9. Jno. A. Bartley, Los Angeles, Calif.	287
10. O. D. Cox, Dante, Va.	278
11. O. L. Peterson, Los Angeles, Calif.	276
12. J. E. Davis, Los Angeles, Calif.	274
13. Jim Barlow, Halstead, Kans.	274
14. Geo. F. Ream, Wilkes-Barre, Pa.	270
15. G. Buchanan, Los Angeles, Calif.	270
16. H. A. Murphy, Pasadena, Calif.	266
17. J. M. Standish, Seattle, Wash.	266
18. S. S. Stone, Los Angeles, Calif.	265
19. P. A. Shepherd, N. Plainfield, N. J.	259
20. O. E. Hertzler, Halstead, Kans.	257
21. Daniel F. Cain, Buffalo, N. Y.	255
22. Edwin O. Hilts, Buffalo, N. Y.	255
23. Edgar W. Davis, Cambridge, Mass.	253
24. Harvey Chism, Denver, Colo.	250
25. G. A. Hughes, Youngstown, Ohio	242
26. Jacob Bernson, Ancon, Canal Zone	239
27. Glenn H. McClelland, Buffalo, N. Y.	238
28. Harry E. Horr, Seattle, Wash.	231
29. Max Wagner, Minneapolis, Minn.	229
30. Tony Matysek, Sayner, Wis.	228
31. Horace Jefferson, Ft. Huachuca	228
32. LeRoy S. Townsend, Balboa, Canal Zone	220
33. R. A. Compton, Quarry Hts., Canal Zone	196

DISQUALIFIED

(Used automatic pistol)

34. Howard M. Beck, Seattle, Wash.

NOT REPORTED

35. H. D. Wilber, Loch Muller, N. Y.
36. Herbert D. Smith, Youngstown, Ohio
37. Herbert R. Brunton, Walden, Mass.
38. Oscar H. Klein, New York, N. Y.
39. E. W. Hoffman, Seattle, Wash.

BULLETIN NO. 23—JULY 18, 1928

N. R. A. SPRING .22 PISTOL CHAMPIONSHIP—30 ENTRIES

Conditions: Open to all. Ten shots slow fire (50 yards), 10 timed, and 10 rapid (25 yards). Any .22 pistol or revolver. To the winner a gold medal; a silver medal to the runner-up, and bronze medals to third to tenth places.

Name and Address	*Score*
1. Jas. F. Engert, Herkimer, N. Y.	293
2. Sgt. Jos. Smith, Ft. Ontario, N. Y.	292
3. Lt. G. B. Davidson, Lebanon, Va.	289
4. Harry S. Menkel, New York, N. Y.	289
5. P. A. Shepherd, N. Plainfield, N. J.	287
6. Carl Wahrer, Sacramento, Calif.	287
7. Ezra Carpenter, Owls Head, N. Y.	287
8. Geo. A. Marshall, Portland, Oreg.	285
9. Jim Barlow, Halstead, Kans.	282
10. Richard O. Phillips, Yonkers, N. Y.	276
11. J. W. Aitken, Overly, N. Dak.	274
12. Jno. A. Bartley, Los Angeles, Calif.	274
13. Jacob Bernson, Ancon, Canal Zone	273
14. A. E. Hertzler, Halstead, Kans.	273
15. W. L. Darling, Boston, Mass.	267
16. Edgar W. Davis, Cambridge, Mass.	265
17. Howard G. Keene, W. Medford, Mass.	262
18. H. R. Brunton, Walden, Mass.	256
19. G. A. Hughes, Youngstown, Ohio	255
20. Lt. Col. W. G. Jones, Jacksonville, Fla.	254
21. R. A. Compton, Balboa, Canal Zone	251
22. Kenneth W. Wright, Chanute, Kans.	246
23. Elmer E. Bliss, Gill, Colo.	246
24. Leroy Townsend, Balboa, Canal Zone	241
25. R. S. Kirkpatrick, Balboa, Canal Zone	239

NOT REPORTED

26. E. Manne, St. Louis, Mo.
27. Theo. E. Winzertzahn, Dunkirk, N. Y.
28. Oscar H. Klein, New York, N. Y.
29. Gilbert C. Greenway, Greenwich, Conn.
30. C. E. Coffin, Jr., San Francisco, Calif.

BULLETIN NO. 25—JULY 23, 1928

TYRO TEAM MATCH—9 ENTRIES

Conditions: Open to teams of as many as ten, five high total scores to count for record; metallic sights. Twenty shots per man at 50 yards and at 100 yards. Silver medals to the winners; second and third teams, bronze medals.

1. Union City Rifle Club, Union City, N. J.

Name	*1st stage*	*2nd stage*	*Total*
1. G. Switzer	194	197	391
2. Henry Muntener	194	194	388
3. Jack Muntener	195	191	386
4. W. Muntener	190	191	381
5. H. Gambric	187	184	371
Total score			1,917

2. Alta District Rifle Club, Dinbuba, Calif. 1,917
3. Mt. Vernon Rifle & Revolver Club, Mt. Vernon, N. Y. 1,897
4. Silver City Gun Club, Meriden, Conn. 1,892
5. Beaver Co. Industrial Athletic Ass'n, Beaver Falls, Pa. 1,884
6. New Britain Rifle Club, New Britain, Conn. 1,873
7. Marin Rifle Club, Fairfax, Calif. 1,872
8. Mahoning Rifle Club, Youngstown, Ohio 1,800

NOT REPORTED

9. Toledo Rifle and Pistol Clubs, Toledo, Ohio

BULLETIN NO. 26—JULY 23, 1928

SMALL BORE TEAM INTERCLUB CHAMPIONSHIP—13 ENTRIES

Conditions: Open to teams of ten, five high total scores to count for record; any sights. Twenty shots per man at 50 yards and at 100 yards. Silver medals to the winning team; second and third teams, bronze medals.
(Rifles: Win. 52 and Martini. Sights: Win. 5A and Fecker. Ammunition: Win. 200 and Palma)

1. Quinnipiac Rifle & Revolver Club, New Haven, Conn.

Name	*1st stage*	*2nd stage*	*Total*
1. F. W. Rogers	196	195	391
2. J. S. Stewart	195	197	392
3. Eric Johnson	199	198	397
4. H. J. Gussman	195	194	389
5. E. J. Dole	199	198	397
Total score			1,971

2. Perth Amboy Rifle Club, Perth Amboy, N. J. 1,958
3. Portland Rifle Club, Portland, Oreg. 1,958
4. Dayton Rifle & Revolver Club, Dayton, Ohio 1,954
5. National Cash Register Rifle Club, Dayton, Ohio 1,953
6. Toledo Rifle & Pistol Club, Toledo, Ohio 1,951
7. Deerfield Gun Club, Kings Mills, Ohio 1,949
8. Frankford Arsenal Rifle Club, Philadelphia, Pa. 1,937
9. Massachusetts Rifle Association, Melrose, Mass. 1,935
10. Beaver Co. Industrial Athletic Ass'n, Beaver Falls, Pa. 1,915
11. Chicago Rifle Club, Chicago, Ill. 1,907
12. Hawthorne Rifle Club, Chicago, Ill. 1,890
13. N. & W. Railway Y. M. C. A. Rifle Club, Portsmouth, Ohio 1,882

BULLETIN NO. 27—JULY 23, 1928

DEWAR COURSE TEAM MATCH—7 ENTRIES

Conditions: Teams of ten, five high total scores to count for record; metallic sights. Twenty shots per man at 50 yards and at 100 yards. Silver medals to the winners; second and third teams, bronze medals.

1. Quinnipiac Rifle and Revolver Club, New Haven, Conn.

Name	*1st stage*	*2nd stage*	*Total*
1. F. W. Rogers	195	197	392
2. E. W. Doyle	194	197	391
3. J. Stewart	199	192	391
4. E. Johnson	193	197	390
5. H. J. Gussman	189	194	383
Total score			1,947

2. Toledo Rifle and Pistol Club, Toledo, Ohio 1,936
3. Deerfield Gun Club, Kings Mills, Ohio 1,927
4. Tulsa Rifle Club, Tulsa, Okla. 1,910
5. Frankford Arsenal Rifle Club, Philadelphia, Pa. 1,910
6. Hawthorne Rifle Club, Chicago, Ill. 1,901

NOT REPORTED

7. 138th Infantry, St. Louis, Mo.

BULLETIN NO. 28—JULY 23, 1928

30-06 INTERCLUB TEAM MATCH

Conditions: Open to teams of ten, five high total scores to count for record. Any rifle except heavy barrels chambered for the .30-06 cartridge. Metallic sights. Ten shots per man standing, 10 sitting or kneeling at 200 yards and 20 prone at 600 yards. To the winning team, silver medals; bronze medals to members of the second and third teams.

1. Standard Oil Club, Casper, Wyo.

Name	*1st stage*	*2nd stage*	*3rd stage*	*Total*
1. W. L. Seamons	46	50	97	193
2. F. R. French	44	48	97	189
3. J. C. Markley	44	47	97	188
4. Jas. Stewart	44	45	97	186
5. J. T. Zeltner	48	42	94	184
Total score				1,940

2. Rainier Rifle & Revolver Club, Seattle, Wash. 939
3. Mountain View Rifle Club, Los Gatos, Calif. 926
4. Massachusetts Rifle Ass'n, Melrose, Mass. 910
5. San Luis Obispo Rifle Club, San Luis Obispo, Calif. 884
6. Quinnipiac Rifle & Revolver Club, New Haven, Conn. 867
7. National Cash Register Rifle Club, Dayton, Ohio 861
8. Louisville National Rifle Club, Louisville, Ky. 845

NOT REPORTED

9. Chicago Rifle Club, Chicago, Ill.
10. Toledo Rifle & Pistol Club, Toledo, Ohio
11. Liberty Pistol & Rifle Club, San Antonio, Tex.

BULLETIN NO. 29—JULY 23, 1928

SPRING INTERCLUB PISTOL TEAM—7 ENTRIES

Conditions: Teams of ten, five high total scores to count for record. National Pistol Team Match course, and conditions. To the winner, silver medals; bronze medals to the second and third teams.

1. Wilkes-Barre Rifle & Pistol Club, Wilkes-Barre, Pa.

Name	*1st stage*	*2nd stage*	*3rd stage*	*Total*
1. Fred Henkle	87	93	95	275
2. Frank L. Frohm	82	93	89	264
3. Leo Grakofsky	93	97	95	285
4. Geo. F. Ream	93	96	95	284
5. Harry Frohm	94	94	89	277
Total score				1,385

2. Los Angeles Police Rifle Club, Los Angeles, Calif. 1,366
3. Pasadena Police Rifle & Revolver Club, Pasadena, Calif. 1,358
4. Chicago Rifle Club, Chicago, Ill. 1,223
5. Newport News Police Department, Newport News, Va. 750

DID NOT SHOOT

6. Luther Rifle Club, Luther, Okla.

NOT REPORTED

7. Brooklyn Rifle Club, New York City

BULLETIN NO. 30—JULY 23, 1928

SPRING POLICE PISTOL TEAM MATCH—6 ENTRIES

Conditions: Teams of ten officers, five high total scores to count for record. Police Qualification Course. To the winning team, silver medals; second and third teams, bronze medals.

1. Los Angeles Police Department, Los Angeles, Calif.

Name	1st stage	2nd stage	3rd stage	Total
1. R. J. Nowka	100	97	50	247
2. C. E. Ward	97	96	50	243
3. F. G. Haley	97	96	50	243
4. J. A. Bartley	97	94	50	241
5. J. E. Davis	98	92	50	240
Total score				1,214

2. Pasadena Police Department, Pasadena, Calif. 1,197
3. Buffalo Police Department, Buffalo, N. Y... 1,155
4. St. Louis Police Team, St. Louis, Mo..... 1,136

NOT REPORTED

5. Pasadena Police Rifle & Revolver Club, Pasadena, Calif.

TEXAS STATE RIFLE ASSOCIATION MATCHES, HELD AT CAMP MABRY, AUSTIN, TEX., JUNE 18 TO 21, INCLUSIVE

M'NEEL TROPHY MATCH, INDIVIDUAL MID-RANGE

	500 yds.	600 yds.	Total
1. Cpl. Graham, 9th Inf., U. S. A.	49	44	93
2. J. C. Talcott, San Antonio	47	44	91
3. W. H. O. Johnson, El Paso	47	43	90
4. Sgt. Young, 9th Inf., U. S. A.	44	45	89
5. Jno. Grist, Jr., Austin	45	44	89
6. M. M. Works, Mission	46	43	89
7. Cpl. Gideon, 9th Inf., U. S. A.	47	42	89
8. Sgt. Linsey, 9th Inf., U. S. A.	47	42	89
9. W. L. Riddle, Austin	40	48	88
10. Jno. F. Callan, Austin	42	46	88

BARBERA TROPHY

	500 yds.	600 yds.	Total
1. Jesse L. Raven, Austin	47	45	92
2. Pvt. Staley, 9th Inf., U. S. A.	43	47	90
3. T. P. Burdett, Austin	45	43	88
4. M. M. Works, Mission	46	42	88
5. John Grist, Jr., Austin	41	45	86
6. R. P. Martinez, San Antonio	43	43	86
7. Ogden King, Lubbock	45	41	86
8. W. J. Palmquist, Austin	45	41	86
9. Sgt. Linsey, 9th Inf., U. S. A.	46	40	86
10. Sgt. Slatton, 9th Inf., U. S. A.	49	37	86

W. B. SMITH TROPHY, INDIVIDUAL RAPID FIRE

	200 yds.	300 yds.	500 yds.	Total
1. M. M. Works, Mission	48	49	43	140
2. Cpl. Gideon, 9th Inf., U. S. A.	49	48	43	140
3. George Corning, El Paso	46	48	44	138
4. Pvt. Staley, 9th Inf., U. S. A.	50	43	35	138
5. T. E. Armstrong, Austin	47	50	40	137
6. Jno. F. Callan, Austin	49	50	38	137
7. W. H. O. Johnson, El Paso	45	49	42	136
8. R. P. Martinez, San Antonio	47	47	42	136
9. Sgt. Young, 9th Inf., U. S. A.	49	44	42	135
10. G. L. Peterson, Austin	45	46	42	133

BARKER TROPHY MATCH, INDIVIDUAL LONG RANGE—1,000 YARDS

	Score
1. Ogden King, Lubbock	47
2. W. L. Riddle, Austin	47
3. Jno. F. Callan, Austin	47
4. Cpl. Sanders, 9th Inf., U. S. A.	46
5. Lieut. J. T. Dalbey, 9th Inf., U. S. A.	46
6. J. C. Talcott, San Antonio	45
7. W. J. Palmquist, Austin	45
8. Hank Wells, San Antonio	45
9. Capt. B. E. Cooper, San Antonio	45
10. Jno. Grist, Jr., Austin	44

THE TIPS TROPHY MATCH, INDIVIDUAL MID-RANGE—600 YARDS

	Score
1. George Corning, El Paso	44
2. Corp. Loomis, 9th Inf., U. S. A.	43
3. Ogden King, Lubbock	43
4. M. M. Works, Mission	43
5. Sgt. Linsey, 9th Inf., U. S. A.	43
6. George Bissell, Austin	42
7. W. J. Palmquist, Austin	42
8. Sgt. Slatton, 9th Inf., U. S. A.	42
9. E. Knape, Austin	41
10. Sgt. Young, 9th Inf., U. S. A.	41

MARVIN KREUZ TROPHY MATCH, INDIVIDUAL MID-RANGE—15 SHOTS, SLOW FIRE PRONE, 600 YARDS

	Score
1. B. F. Thompson, San Antonio	75
2. G. L. Peterson, Austin	73
3. Hank Wells, San Antonio	73
4. Jno. Grist, Jr., Austin	71
5. M. M. Works, Mission	71
6. T. E. Armstrong, Austin	70
7. Jesse L. Raven, Austin	70
8. J. C. Talcott, San Antonio	70
9. T. P. Burdett, Austin	70
10. Sgt. Linsey, 9th Inf., U. S. A.	70

AUSTIN KIWANIS TROPHY MATCH, INDIVIDUAL RAPID FIRE

	200 yds	300 yds.	Total
1. Sgt. Slatton, 9th Inf., U. S. A.	50	50	100
2. M. M. Works, Mission	49	50	99
3. Corp. Loomis, 9th Inf., U. S. A.	49	49	98
4. A. J. Weaver, San Antonio	49	49	98
5. W. J. Palmquist, Austin	50	48	98
6. T. E. Armstrong, Austin	50	48	98
7. G. L. Peterson, Austin	47	50	97
8. Jesse L. Raven, Austin	50	47	97
9. George Corning, El Paso	50	47	97
10. Sgt. Linsey, 9th Inf., U. S. A.	47	49	96

ELBERT AND ERNEST STEVENS TROPHY MATCH, INDIVIDUAL LONG RANGE—1,000 YARDS

	Score
1. B. F. Thompson, San Antonio	98
2. Sgt. Linsey, 9th Inf., U. S. A.	96
3. Hank Wells, San Antonio	96
4. Capt. B. E. Cooper, San Antonio	95
5. M. M. Works, Mission	92
6. Sgt. Graham, 9th Inf., U. S. A.	91
7. T. P. Burdett, Austin	90
8. John Grist, Jr., Austin	90
9. J. C. Talcott, San Antonio	90
10. Corp. Baldwin, 9th Inf., U. S. A.	89

THE COOPER TROPHY MATCH—AN AGGREGATE

	Score
1. M. M. Works, Mission	358
2. Cpl. Gideon, 9th Inf., U. S. A.	354
3. W. L. Riddle, Austin	353
4. John F. Callan, Austin	353
5. Ogden King, Lubbock	347
6. Sgt. Linsey, 9th Inf., U. S. A.	345
7. W. J. Palmquist, Austin	342
8. J. C. Talcott, San Antonio	342
9. Sgt. Young, 9th Inf., U. S. A.	342
10. Hank Wells, San Antonio	340

GRAND AGGREGATE, STATE RIFLE CHAMPIONSHIP

	Score
1. W. J. Palmquist, Austin	318
2. J. C. Talcott, San Antonio	317
3. Sgt. Linsey, 9th Inf., U. S. A.	316
4. W. L. Riddle, Austin	315
5. M. M. Works, Mission	314
6. John F. Callan, Austin	309
7. Ogden King, Lubbock	309
8. Sgt. Young, 9th Inf., U. S. A.	306
9. G. L. Peterson, Austin	305
10. John Grist, Jr., Austin	304

L. L. CLINE TROPHY MATCH—25 YARDS TIMED FIRE

	Score
1. L. L. Cline, San Antonio	93
2. Jno. F. Callan, Austin	91
3. Sgt. C. Jacobson, 9th Inf.	90
4. Capt. J. T. Murray, 9th Inf.	90
5. B. G. Young, Ft. Worth (tyro)	90
6. D. Nissen, San Antonio	89
7. Jesse L. Raven, Austin	89
8. T. O. Miller, San Antonio	88
9. J. C. Talcott, San Antonio	85
10. M. M. Works, Mission	85

BELL PISTOL TROPHY MATCH

	Score
1. Sgt. C. Jacobson, 9th Inf.	262
2. L. L. Cline, San Antonio	261
3. M. M. Works, Mission	257
4. Jno. F. Callan, Austin	256
5. B. G. Young, Ft. Worth (tyro)	254
6. A. B. Fest, San Antonio	252
7. T. O. Miller, San Antonio	251
8. Jesse L. Raven, Austin	251
9. A. S. Milstead, Austin	246
10. Capt. J. T. Murray, 9th Inf.	242

TEXAS STATE PISTOL CHAMPIONSHIP—AN AGGREGATE

	Score
1. L. L. Cline, San Antonio	520
2. Sgt. C. Jacobson, 9th Inf.	517
3. Jesse L. Raven, Austin	512
4. Jno. F. Callan, Austin	510
5. B. G. Young, Ft. Worth	498
6. A. S. Milstead, Austin	496
7. M. M. Works, Mission	494
8. T. O. Miller, San Antonio	493
9. A. B. Fest, San Antonio	488
10. Capt. J. T. Murray, 9th Inf.	488

SAN ANTONIO LIGHT TROPHY, STATE PISTOL TEAM CHAMPIONSHIP MATCH—FOUR-MAN TEAM

	Score
1. Austin Rifle Club Team	1,027
2. Liberty Pistol and Rifle Club Team No. 1	1,007
3. Liberty Pistol and Rifle Club Team No. 2	992
4. 9th Infantry Team	983

AMERICAN SMALL-BORE RECORD MATCH

50-SHOT OFFHAND—POSSIBLE 1,250

	Score
1. H. P. Ronkendorf, Stockton, Calif., Martini, Palma	1,240
2. Dr. C. W. Wahren, Sacramento, Calif., Pet. Win., U. S.	1,239
3. Dr. B. J. Oschiser, Durango, Colo., Schuetzen Bal., Palma	1,238
4. Arthur Hubalek, Brooklyn, N. Y., Hub. Bal., Palma	1,235
5. C. T. Westergaard, Whiting, Iowa, Pet. Bal., Peters	1,235
6. Mike Altman, Luverne, Iowa, Pet. Bal., Peters	1,234
7. Ed. Muhl, Toronto, Iowa, Pet. Bal., Peters	1,234
8. John Altman, Luverne, Iowa, Pet. Bal., Peters	1,232
9. Nick Altman, Luverne, Iowa, Pet. Bal., Peters	1,231
10. Alb. Larson, Whiting, Iowa, Diller, Rem.	1,230
11. E. H. LaRue, Chicago, Ill., Win. 52, Win.	1,229
12. M. Calhoun, Sloan, Iowa, Win. 52, Win.	1,227
13. C. G. Barthold, Stockton, Calif., Tith., Palma	1,225
14. W. Haack, Stockton, Calif., Tith. Bal., Palma	1,224
15. E. F. Burkins, Wilmington, Del., Pet. Bal., U. S.	1,224

50-SHOT PRONE—POSSIBLE 1,250

	Score
1. G. A. Lindgren, Lyons, Ill., Springfield, Palma	1.250
2. C. G. Barthold, Stockton, Calif., Springfield, Palma	1.246
3. S. J. Lanning, Sioux City, Iowa, Win. 52, Peters	1.246
4. J. R. Walker, Oak Park, Ill., Win. 52, Palma	1.244
5. Mrs. S. J. Lanning, Sioux City, Iowa, Win. 52, Win.	1.244

100-SHOT AGGREGATE CHAMPIONSHIP—POSSIBLE 2,500

	Score
1. H. P. Ronkendorf	2.482
2. Dr. C. W. Wahrer	2.472
3. C. T. Westergaard	2.472
4. C. G. Barthold	2.471
5. Mike Altman	2.468

(A Unit of the National Rifle Association devoted to teaching every boy and girl in America the safe and accurate handling of the rifle.)

Conducted by H. H. Goebel

Biweekly Interclub Matches Under Way October 6

THE new plan for biweekly matches over a period of months conducted during the past year has proven a success. Many of our instructors and adult leaders supervising Junior Rifle Clubs have submitted favorable comments on the plan with the request that they again be conducted the coming year. The arrangement was entirely different from anything previously tried, and consequently some were not ready to give it their immediate approval. However, as the matches went on and periods were completed new teams were added to the list of entries, and by the time the three periods were under way 104 teams entered, representing 84 clubs in 28 States. These figures proved the plan's general acceptance and popularity with the Junior shooting organizations.

The program of team matches for the 1928-29 season will include three periods: October 6 through December 15, January 12 through March 23 and April 6 through June 1. During each period there will be three classes or leagues, teams being classified according to their shooting strength with points for standing in each match. Matches are conducted every two weeks, fired on the club's home range. By conducting three periods of matches teams starting late have a chance to win at least one or two of the periods, while the early starters have three chances of winning throughout the year. This arrangement prevents "a dragging out" of any one match, and with divisions or leagues teams are always pitted with others of their own shooting ability.

As scores improve teams are advanced to higher standing, carrying over with them the points earned in the lower grading. That is the object of the plan, to encourage teams to higher classification, allowing them to advance at any time during a period of matches; but at no time are they allowed to be lowered after they have once been placed. There was a noticeable improvement in team scores under this plan during the past year. Fifty per cent of the C Division teams advanced to Division B, while 30 per cent of the B Division teams advanced to Division A.

In the first period of matches, commencing October 6 there are six matches. The scores submitted by the five high men from each team in this first match determines the classification or division in which teams belong. Division A teams will consist of the better-shooting clubs submitting team scores of 460 or better. The ten leading teams are credited with points in multiples of 30 up to 300 (winner 300, second 270, etc.). It is possible to total 1,800 points for the complete series.

The Division B teams will consist of clubs less experienced submitting team scores of 430 through 459. The ten high teams in each match again receive points, but this time in multiples of 20 up to 200. In the six matches it is possible to total 1,200 points (winner 200, second 180, etc.). The newly organized clubs submitting team scores below 430 will compose the C Division. The ten high teams in each match will receive points in multiples of 10 up to 100. In the six matches it is possible to total 600 points (winner 100, second 90, etc.).

The targets for all six matches in the first period will be mailed to the instructors under one cover upon receipt of the team's entry and fee. The entry fee of $1 for each series of matches for each team will be used for the purchase of suitable awards for the three high teams in each division. At the conclusion of the three periods the high team in each division will receive special awards. As there are ten men to a team, each man firing one target for record, five high scores to count, it is required that all ten targets fired upon or not be returned for each match. The dates and returns for the matches in the first period follow:

Matches week ending—	*Returns not later than—*
October 6	October 11
October 20	October 25
November 3	November 8
November 17	November 22
December 1	December 6
December 15	December 20

The second period of six biweekly matches gets under way with the match arranged for week ending January 12. The third period, which will consist of but five matches, will get under way April 6. Teams will be reclassified for divisions for the first match in each period.

(Continuel on page 31)

RIFLE PRACTICE POPULAR AS A CAMP ACTIVITY

SEVERAL years have passed since the J.R.C. program of rifle practice first became one of the activities conducted in the summer camps. It became popular with the campers from the start and has gradually spread to camps in all sections of the country.

Again this year more than 200 camps are promoting the sport, carrying out this interesting and instructive program. This constant growth can be attributed to the demand on the part of the boys and girls to better their scores for higher rating and training in marksmanship. It is the natural instinct of every American boy and girl to handle the rifle and they, through the co-operation of their camp directors and the N. R. A. J. R. C., are being taught properly. The many incentives in the form of diplomas, medals and pins help to make this interest lasting.

Last year more than 12,500 awards were presented in the camps. Twenty-two camps awarded more than 100 medals and bars, led by Camp Wood, the Y. M. C. A. camp of Elmdale, Kans., with 508 medals, 69 pins and 71 bars. With the increased activity the following camps are making a determined effort to better all previous records:

AFFILIATED CAMPS, 1928

Camp	*Loation*
Abena	Belgrade Lakes, Me.
Abnaki	North Hero, Vt.
Adirondack	Glenburnie, N. Y.
Agawam	Crescent Lake, Ma.
Alleghany	Clifton Forge, Va.
Alleghany	Ronceverte, W. Va.
Androscoggin	Wayne, Me.
Arapahoe	Byramcove, N. J.
Arbutus	Mayfield, Mich.
Arcadia	Casco, Me.
Arrow	Spokane, Wash.
Arrowhead	Chocouut, Pa.
Barta Camp, The	Casco, Me.
Bedford	Bedford, Ind.
Birch Rock	East Waterford, Me.
Black Bear	Marion, N. C.
Bonaventure	New Mills, N. B., Canada
Booth Bay	Bath, Me.
Boycroft	Wolfeboro, N. H.
Boy Scout	Knoxville, Tenn.
Brown Ledge	Mallets Bay, Vt.
Brown Memorial	Abilene, Kans.
Brooklyn Boy Scout	Kanohwahke, N. Y.
Burch	Beulah, Colo.
Cabins Camp, The	Oberlin, Ohio
Calumet	Canaan, N. H.
Carolina	Brevard, N. C.
Casady	Minong, Wis.
Castlewood	Traverse City, Mich.
Cheley Colorado	Estes Park, Colo.
Cherokee	Beach Lake, Pa.
Chewonki	Wiscasset, Me.
Chickasaw	Brevard, N. C.
Chimney Rock	Chimney Rock, N. C.
Cobbossee	Winthrop, Me.
Contoocook	E. Jaffrey, N. H.
Court Oreilles	Hayward, Wis.
Crockett	Pueblo, Colo.
Crockett	Granbury, Tex.
DeWitt	Wolfeboro, N. H.
Dr. Pettit's	Shelter Island, N. Y.
Dudley	Westport, N. Y.
Duncan	Peru, Vt.
Dunes	Peconic, L. I., N. Y.
Eastford	Eastford, Conn.
Eberhardt	South Bend, Ind.
Fairwood	Torch Lake, Mich.
Fire Place Lodge	Easthampton Springs, N. Y.
Frank A. Day	East Brookfield, Mass.
French Broad	Brevard, N. C.
Great East Lodge	Sanbornville, N. H.
Greatlock	Dublin, N. H.
Greenbrier	Alderson, W. Va.
Greyrocks	East Hebron, N. H.
Half Moon	Great Barrington, Mass.
Ha-Wa-Ya	Harrison, Me.
Healthland	Crescent Lake, Me.
Herman	Greensboro, N. C.
Hiawatha	Kezar Falls, Me.
Highland Nature	North Sebago, Me.
Highlands	Sayner, Wis.
Hyde	Hutchinson, Kans.
Idlewild	Lakeport, N. H.
Illahee	Brevard, N. C.
Indian Acres	Fryeburg, Me.
Indianola	Madison, Wis.
Interlochen	Interlochen, Mich.

Island Park	Walton, N. Y.
Junaluska (Girls)	Junaluska, N. C.
"K" Camps, The	Branson, Mo.
Kabeyun	Alton Bay, N. H.
Kairphree	Alpena, Mich.
Kamp Kill Kare	St. Albans Bay, Vt.
Katandin	Etna, Me.
Kawanhee	Weld, Me.
Kee-Mo-Sah-Bee	Mullet Lake, Mich.
Kennebec	Belgrade Lakes, Me.
Kent	So. Kent, Conn.
Keystone	Brevard, N. C.
Kiamesha	Newton, N. J.
Kinaani	Naples, Me.
Kineo Caddy	Kineo, Me.
Kirk Lake	Mahopac Falls, N. Y.
Koda	Bridgeton, Me.
Kyle	Catskill, N. Y.
Lafayette	Merrill, N. Y.
Lake Delaware Boys	Andes, N. Y.
Lake George	Glen Eyrie, N. Y.
Laurel Falls	Clayton, Ga.
Lenape	Tafton, Pa.
Lincoln	Hubert, Minn.
Lincoln	Keesville, N. Y.
Lincoln Hill	Foxboro, Mass.
Lookout Mountain	Mentone, Ala.
Machigonne	Raymond, Me.
Mahoning	Rochester Mills, Pa.
Manitowish	Boulder Junction, Wis.
Manning	Andover, Mass.
Maquam	Swanton, Vt.
Marvin-Hillyard	St. Joseph, Mo.
Mashnee	Buzzards Bay, Mass.
Massapoag	Dunstable, Mass.
Matoaka	St. Leonard, Md.
McCoy	Tuolumne, Calif.
Mechano	So. Casco, Me.
Menatoma	Kents Mills, Me.
Minnewawa	Raymond, Me.
Minne Wonka	Three Lakes, Wis.
Minne Wonka Lodge	Three Lakes, Wis.
Mishe Mokwa	Bear Wallow, N. C.
Mishe Mokwa	W. Alton, N. H.
Mitchell-Harlee	Tyler Hill, Pa.
Mitigwa	Rangeley, Me.
Moccasin	Lochmere, N. H.
Mohajo	Washington, N. H.
Monadnock	Jaffrey, N. H.
Mondamin-Tawasentha	Tuxedo, N. C.
Moosalamoo Wigwam	Salisbury, Vt.
Moosilauke	Pike, N. H.
Mowglis	East Hebron, N. H.
Mystic	Kerrville, Tex.
Nakanawa	Mayland, Tenn.
Narragansett	Casco Bay, Me.
Natick Boy Scout	Natick, Mass.
Navajo	Honesdale, Pa.
Nee-Ah-Gah-Neh	Niagara Falls, N. Y.
Nokomis	Harrison, Me.
Norwich	Huntington, Mass.
O-At-Ka	East Sebago, Me.
Ogontz White Mountain	Lisbon, N. H.
Oklahoma State "Y"	Grove, Okla.
Oneida	Woodgate, N. Y.
Osh-Ki-De	Bruin, Pa.
Oseha-of-the-Dunes	Frankfort, Mich.
Owakonze Camps	Ontario, Canada
Passagassawaukeag	Brooks, Me.
Passumpsic	So. Fairlee, Vt.
Pawnee	Southington, Conn.
Paysock	Brooks, Me.
Penn	Valcour, N. Y.
Penn Loch	Interlochen, Mich.
Pine Acres	W. Swanzey, N. H.
Pine Bluff	Port Jefferson, N. Y.
Pine Tree	Pocono Pines, Pa.
Pinnacle	Lyme, N. H.
Pioneer	Winsted, Conn.
Pocahontas	Meadow View, Va.
Pocono	Tobyhanna, Pa.
Pocono Pines	Pocono Pines, Pa.
Pokemoke	Richville, Me.
Pomeroy	Greenwich Village, Mass.
Powhatan	Oxford, Me.
Rodney	Northeast, Md.
Restwell	Lake George, N. Y.
Rockbrook	Brevard, N. C.
Ro-Fre-La	Delaware, Ohio
Rogers Kemp	Grove, Okla.
Ronah	Hague, N. Y.
Ropioa	Harrison, Me.
Rotherwood	Alfred, Me.
Roosevelt	Perry, Ohio
St. Bernards	Gile, N. Y.
St. Johns	Hancock, N. Y.
Samoset	Lakeport, N. H.
San Luis Valley	So. Fork, Colo.
Sapphire	Brevard, N. C.
Schoodic	Columbia, Me.
Senape	Sharon, Conn.
Sequoya	Bristol, Va.
Sequoyah	Beech, N. C
Serrana	Pike, N. H.
Shawanogi	Covington, Va.
Sherwood	Boyne City, Mich.
Skylark	Billerica, Mass.
Soan-Ge-Taha	Bucksport, Me.
Sokokis	Bridgton, Me.
Songadeewin	Burton, Vt.
South Bergen Scout	Oakland, N. J.
South Pond Cabins	Fitzwilliam Depot, N. H.
Stewart Boys'	Kerrville, Tex.
Stone Hill	Hayward, Wis.
Storer	Toledo, Ohio
Strongheart	Tomahawk Lake, Wis.
Summer Trails	W. Branch, Mich.
Sunrise	Orwell, Vt.
Sunset	Greenfield, N. H.
Tay-Low	Mobile, Ala.
Tecumseh	Delphi, Ind.
Teela-Wooket	Roxbury, Vt.
Terra Alta	Marion, N. C.
Terra Alta	Terra Alta, W. Va.
Theodore Roosevelt	Plattsburg, N. Y.
Ticonderoga	Ticonderoga, N. Y.
Timanous	Raymond, Me.
Tip	Clayton, N. Y.
Tome	Port Deposit, Md.
Tonde	Porters Corners, N. Y.
Touring Boys	Ann Arbor, Mich.
Toxaway	Lake Toxaway, N. C.
Tunis Lake	Andes, N. Y.
Urban Summer Camp	Los Angeles, Calif.
Valcour	Valcour, N. Y.
Wahtonah	Brewster, Mass.
Wakonda	Pottersville, N. Y.
Wallawhatoola	Millboro Springs, Va.
Wamego	Corinth, N. Y.
Wampanoag	Buzzards Bay, Mass.
Wanaki	Cass Lake, Minn.
Wapello	Friendship, Me.
Washington	Long Valley, N. J.
Wavus Camps	Jefferson, Me.
Webb	Wallington, Tenn.
Wentworth	East Wolfeboro, N. H.
Wequaquet	W. Barnstable, Mass.
White Mountain	So. Casco, Me.
Whooppee	Bloomington Springs, Tenn.
Wickaboag	W. Brookfield, Mass.
Wi-Co-Su-Ta	Bristol, N. H.
Wigwam	Harrison, Me.
Wihakowi	Northfield, Vt.
Wild-Croft	No. Windham, Me.
Wildmere	Harrison, Me.
William Lawrence	Center Tuftonboro, N. H.
Windsor Mountain	Hillsboro, N. H.
Winnemont	W. Ossipee, N. H.
Winnicook	Unity, Me.
Winona	Denmark, Me.
Wonalancet	Eaton Center, N. H.
Wonposet	Bantam, Conn.
Wood	Elmdale, Kans.
Woodcraft School	Culver, Ind.
Woodland	Phoenicia, N. Y.
Wulamat	Bristol, N. H.
Wyconda	Belgrade Lakes, Me.
Wyoda	South Fairlee, Vt.
Wyomissing	No. Water Gap, Pa.
Wyonee	Harrison, Me.
Yonahnoka	Linville, N. C.

BI-WEEKLY MATCHES

(Continued from page 30)

Ties occurring in any one period will be decided first by the highest number of matches completed in a period, and second by the aggregate score in all matches completed during a period.

MATCH CONDITIONS

Open to: Junior Rifle Clubs affiliated and in good standing with the N. R. A.

Teams: One or more teams of ten members may represent each club; but no one member may fire on more than one team.

Course: One stage, prone, 10 shots for record; two shots in each bull's-eye. Five high targets to count for team total.

Sighting shots: No sighters allowed on record targets. Sighting shots may be taken on practice targets before firing match.

Rifles: Any small-bore firing any .22-caliber rim-rifle ammunition.

Sights: Metallic.

Targets: Official N. R. A. J. R. C. five-bull (targets furnished).

When fired: At any time during the two-week period designated for each match. An entire stage must be completed the same day started.

Entrance fee: $1 per team per series. Entries will be made by letter.

Returns: Ten targets for each match, fired or unfired, must be received at National Headquarters within five days after close of each match.

Periods: Three periods of biweekly matches: October 6 – December 15, January 12 – March 23, April 6–June 1.

Classifications: Teams classified in Division A, B and C by scores submitted in first match but allowed to advance at any time during a period. Division A teams compete for first ten places for points in multiples of 30 up to 300 in each match. Division B teams compete for first ten places for points in multiples of 20 up to 200. Division C teams compete for first ten places for points in multiples of 10 up to 100.

Prizes: Suitable prizes to the three high teams in each Division at the close of each period. Special prizes to the high team in each Division at the termination of the three periods.

Ties: Decides first, by the highest number of matches completed in a series; second, by the aggregate score in all matches completed during a series.

CAMPERS WILL ORGANIZE RIFLE CLUBS IN THEIR SCHOOLS, Y. M. C. A.'S, SCOUT TROOPS AND CHURCHES BACK HOME

THE 1928 season in camps is now over. Thousands of campers are returning to their homes from every section of the country to treasure the memories of a wonderful season of relationships and training. Some will be content to wait patiently for another year to roll around when they can again go to camp and again continue to enjoy the many sports taught them. Others will benefit by the season's training and decide that what they enjoyed in camp they can also enjoy at home.

Rifle-shooting is one of the all-year activities that may be enjoyed from January to December, indoors and outdoors. It is a sport that holds the enthusiasm and the varied program of individual and team qualifications makes the interest lasting. This interest and its many instructive attributes has carried target-shooting for boys and girls to a place on the sport program of every progressive school, church, Y. M. C. A., Scout Troop and kindred organizations in the country.

Many schools in the East and Middle West have recognized the sport as a major activity and are now awarding the school letter to members of their rifle teams. Some are giving the minor letter for having completed the individual qualification course. Heretofore school letters went only to the "huskies," but now a boy or girl regardless of any physical handicaps may also win letters for proficiency in athletics. Rifle-shooting as a major sport has broadened the field of sport in every school where Junior Rifle Club members have been active in organizing clubs. If your school, Troop, Y. M. C. A., church or club is without this sport why not make it a point to start rifle shooting this fall?

In addition to the splendid course of individual qualifications which take you through the grades of Pro-Marksman, Marksman, Sharpshooter, the Bars in four positions for Expert and Distinguished Rifleman, there are many individual and team championships as well as a complete series of team matches by leagues in series to be fired throughout the indoor season. Are you going to wait until next summer before qualifying for that

next medal or bar? We think and hope not. During the past gallery season 50 per cent of the inexperienced clubs advanced to the select class of Riflemen. This advancement is directly traceable to constant interest and practice, making for better scores. You, too, can advance by keeping up your rifle practice as an individual or in team competition. Write headquarters how to go about getting a rifle club started in your institution or club. We are just finishing our most successful outdoor season, and we anticipate as fine a season indoors. You can help make it so if you will. Will you?

EXPERTS AND DISTINGUISHED RIFLEMEN

THAT "once in a lifetime feeling" comes over us when we have demonstrated that things that at first seemed utterly impossible can with a little effort and perseverance be accomplished. This is the reward for effort. In completing the Expert course requiring a certain amount of proficiency in the four positions we don't attach so much importance to the medal that is won as to the fact that we have attained that which we were determined to go after and get.

When a member receives letters and diplomas from Headquarters with "Expert Rifleman" attached to his name we know that he has learned to "hit where he aims" and that he has really attained something very much worth while. Not alone has he become a good shot, but he has been benefited greatly through the training and development the sport affords. He has learned to concentrate, be courteous, self-reliant, accurate and live clean.

With each grade in marksmanship accomplished members are issued diplomas which are of extreme value as they actually designate achievement. Some are so unfortunate as to lose their medals while wearing them, but the diplomas are to be prized and should be framed and hung in your room at home. It is a fine thing to hold these awards, but it is finer still to possess that which goes with it—the ability to shoot.

During the past month 21 members completed the Expert course and are now proud possessors of the Expert Medal and diploma:

Royce Burgess, Syracuse, N. Y.
Albert Grandelis, Franklin, Pa.
G. C. Bullock, Boonville, Mo.
John Wanty, Fort Hill Park, L. I., N. Y.
Paul Leonard, Roswell, N. Mex.
Otis Campbell, Detroit, Mich.
Charles Hooff, Jr., Alexandria, Va.
Charles Mesurac, Richmond Hill, N. Y.
Fred Geyer, St. Louis, Mo.
William Nelson, New York, N. Y.
Harrison Crane, Malden, Mass.
Richard George, Malden, Mass.
George Reardon, Malden, Mass.
George Trout, Malden, Mass.
Milton Miller, Columbus, Ohio.
Richard Gibson, Winfield, Kans.
Floyd Nolan, Syracuse, N. Y.
Walter B. Clarkson, Alderson, W. Va.
Kenneth Welch, Joplin, Mo.
Frank Grant, Tulsa, Okla.
Beaumont Clarkson, Alderson, W. Va.

Many members having qualified as Experts are now on the road to higher individual honors, shooting conscientiously for the Distinguished Rifleman bar for attachment to their medal. These distinctive shooters have not yet reached the century mark; but that is as it should be, for only those who can accomplish such a course should be entitled to these added honors. Anyone who can complete this course in the four positions with consecutive qualifying shots on each target can well be proud of their achievement. The following have had their names added to the honor list of Distinguished Rifleman during the past month:

Richard Strauss, Detroit, Mich.
Mary Parkhurst, Washington, D. C.
Page Worthington, Alderson, W. Va.
Frank Grant, Tulsa, Okla.

PROGRESSION

WHILE we are now thinking of the coming fall activities and the indoor range a word or two about competition and our achievements should be given some mention. To you who have had some training in the use of the rifle, are you satisfied with your present record? Are you going to stop at Promarksman or Marksman when you know that you can, if you will, become a Sharpshooter, Expert and possibly a Distinguished Rifleman? Are you satisfied to go along by yourself with that hit or miss attitude or are you planning on organizing the fellows in your neighborhood into a club and help make it the best shooting outfit in your community?

It is a known fact that club members improve much quicker through their associations and competition. The interest is sustained as eventually boys and girls tire of beating their own scores. The club plan through a knowledge of others prompts members to improve their own shortcomings, and creates clean, healthy companionships. It further encourages team work or co-operation, a needed element for the accomplishment of big successes. There is an added advantage as it enables shooting to be conducted at much less expense, as one small range and a few rifles will serve many.

The opportunity is given every affiliated club to compete in the biweekly matches conducted in short series by divisions. Teams are placed according to their shooting strength and at all times are privileged to advance to faster competition. There is a place for every club, and it should be their desire to complete at least one series so as to get a taste of real national competition. It is not impossible to carry off one of the division championships in each series, as proven by some of the many inexperienced teams entered last year.

How rapidly and how far you advance depends almost entirely upon yourself. The complete program of individual qualifications, team matches and national events is provided with the necessary instructions and conditions for each by National Headquarters. If everyone will determine to advance at least one step along, our organization will move forward. But if you wait for some other member or your Instructor to start you, then you will retard not only your own progress but that of your organization as well.

Therefore, resolve that you will go after higher honors in individual achievement, that you will organize a club and enter the matches, and that you will make it possible for every boy and girl in America to enjoy the benefits and pleasures which are offered by the N. R. A. J. R. C.

CLUB SUPERVISION

MEN and women in all walks of life are making good today as instructors of Junior Rifle Corps Clubs. Some have been working with boys and girls for years, many of them school teachers, clergymen, Y. M. C. A. secretaries, Boy Scout masters, Girl Scout captains, Camp Fire guardians, Camp Directors and Boys' Club superintendents. Many prominent business and professional men and women are so interested in their children's welfare that they are willing to devote their valuable time to teaching them the safe and intelligent use of the rifle because they believe it should be taught.

The kind of men and women who are most successful in this work are those who have some real interest in common with the boys and girls either through daily association or technical knowledge or both. The father who takes the time to organize a rifle club among his son's friends will earn the everlasting good will of every one of them and a substantial popularity in the rest of the community. The "big brothers," too, are taking a hand in this movement. Those who have been in the military service make ideal instructors. Better even than their knowledge of marksmanship is their respect and discipline, as they are able to instill this respect into the boys when teaching them the fine points of shooting. Graduates of the Junior Rifle Corps who have qualified, many of them as Experts, are also heading up the Junior Rifle Corps work.

Whatever his age or occupation the instructor gains a good deal from this association. If he is a father he establishes with his boy an understanding and bond of lifelong duration. If younger, there is a satisfaction of being engaged in a recreation at once congenial and beneficial—teaching a useful art in a way to keep it useful, performing a distinct service to the community and recognized by the community for it.

The following qualifications are also essential to successful leadership: He must be able to win the confidence of every member of the club and be sincere with them. The members may not agree on all points, but if he is sincere in his belief he will be given the chance to prove that he is right. Have sympathy for the boy and girl viewpoint. What may seem trifling to the instructor may mean much to the members. He must be natural in his dealings and not assume a false dignity. The instructor will be accepted for what he really is and not for what he may think he is. A sense of humor is also vital. He must be able to see the funny side of things and also have the ability to apologize when in the wrong. These are little things; but many a boy has grown to manhood and has never forgotten the man who wrongly accused him.

Control starts with the leader. Self-control will go a long way toward securing the con-

trol of the club. Should the adult leader lose his temper he will soon lose the confidence of his organization. Physical control also plays an important part. If the control of the body is not taken care of it can not serve when needed most. Clean living, wholesome thinking, proper eating and physical exercise will help develop this control.

Material control is also to be considered. If good care is not given the range, rifles, ammunition and supplies—in other words, if things are not kept in an orderly manner—the club has missed out on the material control. Someone should be appointed to take care of the cleaning of the rifles, others to pick up waste targets and other refuse and others to keep accurate account of the club's records neatly and carry on correspondence with National Headquarters regularly and intelligently. All these things will help tremendously in making the club program run smoothly.

The wise instructor will have a clearly defined schedule of procedure and in planning it will remember that he is the instructor and that in giving the course of instruction in marksmanship he is teaching a wholesome sport as well. He will thoroughly acquaint himself with the information contained in the "Instruction Manual" and give every member complete instruction and coaching before he is allowed to go on the range.

MOSTLY PERSONAL

MR. C. G. THOMSON, instructor of rifle practice for the past two years at Camp Crockett, promoted by the Y. M. C. A. of Pueblo, Colo., has resigned his position as boys' work secretary to take up the work at Joliet, Ill. Much was accomplished with the Pueblo riflemen, and we are sure that Instructor Thomson will be successful in organizing the work in Joliet.

One hundred and eight campers of Camp Taylow, Mobile, Ala., have submitted their fees of 25 cents for individual enrollment in the N. R. A. J. R. C. The club was also enrolled under the club plan some time ago. Rule books, membership buttons and membership cards were furnished Instructor R. J. Seeger, Scout Executive, for his presentation.

All members of Camp Pawnee, Southington, Conn., who have qualified as Marksmen are eligible to participate in trap-shooting. A .410 shotgun with a hand strap is being used, and Instructor Irving Kassoy advises that the boys are falling head over heels in an effort to qualify for this added attraction. In fact, one of his members who is but 6 years of age shoots a consistent 35 and admits that he does it without knowing how or why.

Again we have a fine showing of leaders who have successfully completed all ten lessons of the Correspondence Instructor's Training Course and received their commission as Assistant and Instructors of the N. R. A. J. R. C. National Headquarters has received many fine comments on the helpfulness of this course, and it is our desire that every adult and member over 18 years of age take advantage of the special training. The following have passed this examination:

Richard Hull, Pittsburg, Kans.
Virginia Symns, Bristol, Va.
Ann Myers, Jeffersonville, Ind.
Theodore Mommers, Keeseville, N. Y.
J. Russell McShane, Brooklyn, N. Y.
E. J. Hunt, Cape Charles, Va.
Orval Hite, Bartlesville, Okla.
Christopher J. Clifford, Brockton, Mass.
O. R. Bridger, Norman, Okla.
A. B. Bower, Crumpler, W. Va.
L. W. Giles, Ada, Okla.
Melville Malet, New York City.
Sanford W. Binns, Jr., Richmond, Va.

From all reports prospects are fine for the organization of a rifle club at Renovo, Pa. While looking the town over with two of his local Scouts, Instructor Orlando Delfino, leader of the Erie Junior Rifle Club, aroused the interest of several boys in the town and agreed to organize and sponsor a rifle club. A membership drive is now being conducted, and after gathering together a sufficient number of enthusiasts the club will be chartered by headquarters.

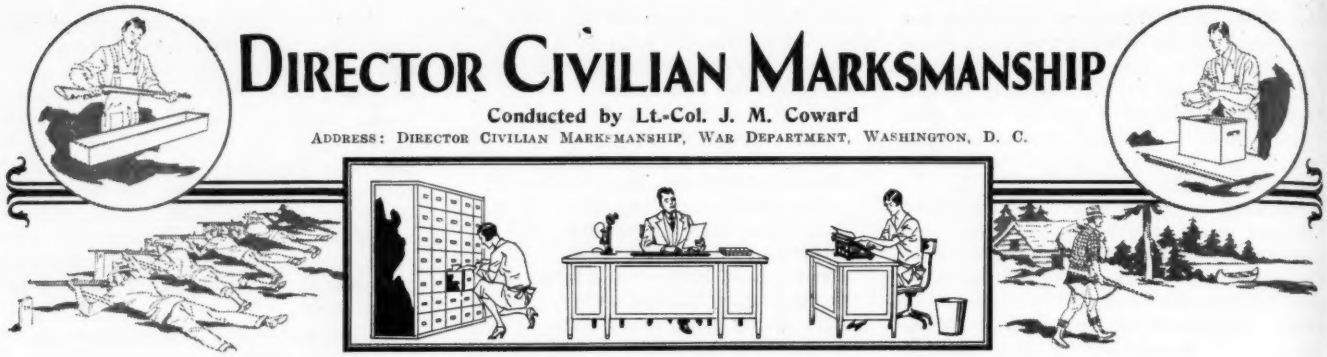
An editorial recently appearing in the *Okmulgee Democrat* of Oklahoma City, Okla., is so interesting that we are passing on portions of its contents to our many NEWS readers:

"Rifle-shooting, the oldest of American sports, once universal and highly popular throughout the United States, rapidly is coming into its own again, reports from colleges, churches, preparatory schools, high schools and Y. M. C. A. chapters of the nation indicate. It is a sport which is truly American, the rightful heritage of every boy and girl of America today. Few Okmulgeeans realize today just what rifle-shooting means to them, to their boys and girls.

"In our city there are more rifle-shooters today than there ever were before. The high school has its rifle club of keen sports, shooting matches with other high schools and among themselves, while the girls of the Y. W. C. A. are thrilling to the sport of shooting. The adults have their rifle club, boasting some 48 members, and the National Guardsmen have two more. Okmulgee boasts one of the finest rifle ranges in the entire South, so far as civilian-owned ranges go, according to the opinion of a military rifle range expert.

"Rifle-shooting as a sport is a keen one. It is a character-builder, else the Y. M. C. A., the churches of the nation, would not use it and encourage it. It teaches accuracy of mind on subject matter; it teaches men and boys and girls to be patient, orderly, courteous, obedient and clean. No rifleman ever won a match unless he had lived cleanly, cared correctly for his body and disavowed dissipation. There is no greater sport in the world from the standpoint of physical training! No man can win a rifle match without complete co-ordination of mind and muscle, because he must be clean in thoughts, body and spirit. He must know how to completely relax, so that only his trigger finger is tensed, and so that gradually he does not know it. Any man's eyes can telegraph his brain to have the finger jerk the trigger, but the champion rifleman's finger must squeeze the trigger through a peculiar form of mental telepathy, as it is called for lack of a better definition, without resorting to the crude method of ordinary nerves.

"The National Rifle Association, the only sportsman's organization in America officially recognized by Congress, is backing this return to the sport of our forefathers, and it provides, without any obligation and without cost, trained and clean instructors for your boy and your girl and for you in the field of rifle-shooting."



DIRECTOR CIVILIAN MARKSMANSHIP

Conducted by Lt.-Col. J. M. Coward

ADDRESS: DIRECTOR CIVILIAN MARKSMANSHIP, WAR DEPARTMENT, WASHINGTON, D. C.

SHIPPING TICKETS

THE secretaries of a few of the rifle clubs are not as prompt as they should be in signing and mailing to this office all shipping tickets for supplies sent to their clubs. These shipping tickets are generally mailed to the clubs at the time the shipment is made from the arsenal. This is notification that the shipment has started on its way. In due course of time the shipment arrives and by that time some of the secretaries have lost or mislaid the shipping ticket. Please hang onto them and when the shipment comes to hand sign the shipping ticket immediately and mail it to this office. If all club secretaries will do this, it will save the D. C. M. lots of trouble and extra work. Remember that the arsenals and the D. C. M. have to account for all of the property shipped to the clubs, and when the shipping tickets are delayed any undue length of time it causes a slight mix-up in both accounts. So, be on the job, and send in properly signed shipping tickets as soon as possible after the shipment arrives.

REGARDING SALES TO JUNIOR MEMBERS OF THE N. R. A.

REQUESTS for the sale of various rifles and other equipment are received from Junior N. R. A. members. These Junior members are not authorized to purchase rifles and other stores through the D. C. M., and their remittances have to be returned. If these applicants for sales will only wait until they are full members, then sales may be approved. This does not apply to things that you may wish to buy from the N. R. A. Service Company, but only to stores sold through the D. C. M.

D. C. M. AT CAMP PERRY

THE Director of Civilian Marksmanship, his assistant, and part of the personnel of the office will be at Camp Perry during the period of the National Matches, where they will be glad to greet any of the rifle club members or other members of the N. R. A. Orders for equipment will be taken at the office in camp, and information relative to the organization and equipping of rifle clubs will be gladly furnished. If any of the rifle-club officials or anyone else who may be at Camp Perry has anything that may be bothering him, please drop in to the office and talk the matter over. Many times things can be straightened out in a few moments that would take several weeks or even months of correspondence.

Due to the fact that the D. C. M. will be at Camp Perry, it is requested that all prospective purchasers of ordnance material kindly delay their orders until about September 20, when we will be back in Washington. Of course, if there is something really urgent, don't hesitate to order; in fact, time may be saved if you will send in your order to the Washington office during our absence.

COURSES OF FIRE FOR PISTOL AND RIFLE

ALTHOUGH the courses of fire with the pistol and rifle are given in Training Regulations 150-20 for the pistol, and 150-5 and 150-10 for the rifle, quite a number of requests for information are received from time to time. The Training Regulations mentioned may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 25 cents for all three. When ordering do not send stamps.

The Record Course for the pistol is as follows:

Slow fire—25 yards, 2 scores of 5 shots, no time limit.

Rapid fire—15 yards, 2 scores of 5 shots, 11 seconds per score; 25 yards, 2 scores of 5 shots, 15 seconds per score.

Quick fire—25 yards, 3 scores of 5 shots, 3 seconds per shot.

The L target is used for slow and rapid fire, and the E or bobbing target used for the quick fire. The E target is alternately exposed and concealed from the firer. Exposures are for 3 minutes. Hits on the L target in accordance with the value of the scoring space struck; on the E each hit counts 1 point.

With the rifle there are four courses of fire—A, B, C, and D. Each course is different, with different qualifying scores. Space will not permit printing the details of all these courses. Full information will be found in the Training Regulations already mentioned, or will be furnished from this office upon request. All members of civilian rifle clubs may fire for record and qualification for Regular Army insignia which is furnished by this office.

INSIGNIA FOR QUALIFICATION AT CAMP PERRY

APPROPRIATE insignia will be awarded all civilians who make the required scores in the National Individual Rifle and Pistol Matches. Qualifying scores: Rifle—Expert, 255; Sharpshooter, 230; Marksman, 210. With the pistol, Expert, 240; Sharpshooter, 225; Marksman, 210. Qualification badges will only be issued to those applying for them, and will be distributed as soon after the matches are fired as possible. Notices will appear on the camp bulletin boards when the insignia are ready for issue.

SPORTERS AND CALIBER .22 M1 RIFLES

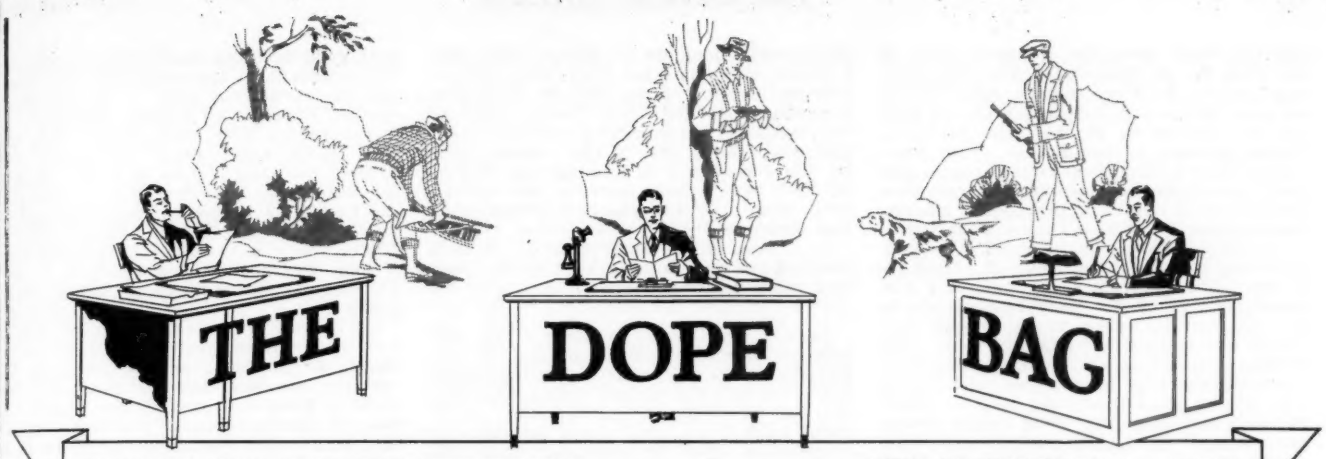
THESE two popular weapons are available for sale to all N. R. A. members at $46 each. An ample supply is on hand to take care of all current orders. It is suggested that orders be sent in a sufficient time in advance of when required, so that ample time will be allowed for delivery. If two of these rifles are shipped together, the packing charge is $1.65; but if shipped singly, the packing charge is $1.34 as usual.

CUT-OFF RUSSIANS ON HAND

THIS office is taking orders for Russian rifles modified as described in a recent article in THE AMERICAN RIFLEMAN. This work is being done only at Benicia Arsenal, and costs as follows:

First Modification: Cut down barrel to 24 inches and affix Model 1902 front sight; work down stock; reshape bolt handle; put on Krag lower band and butt swivel for sling	$3.21
Cost of rifle	3.34
Total cost	$6.55
Second Modification: In addition to the above, remove present rear sight and rear sight fixed base; drill and tap holes for Lyman No. 36 rear sight (this leaves rifle without rear sight, which must be obtained elsewhere): additional cost	$ .75
Total cost of modified rifle	$7.30

When submitting orders be sure to state whether you want one or both modifications, and be sure to send the proper amount of funds. There is no packing charge on this rifle.



RIFLES AND BIG-GAME HUNTING: LT.-COL. TOWNSEND WHELEN
PISTOLS AND REVOLVERS: MAJ. J. S. HATCHER
SHOTGUNS AND FIELD SHOOTING: CAPT. CHARLES ASKINS
EVERY CARE IS USED IN COLLECTING DATA FOR QUESTIONS SUBMITTED, BUT NO RESPONSIBILITY IS ASSUMED FOR ANY ACCIDENT WHICH MAY OCCUR.

A Free Service to Target, Big Game and Field Shots — All questions answered directly by mail

On Bolt-Action Triggers

By TOWNSEND WHELEN

IN THE November issue of THE AMERICAN RIFLEMAN, in the Dope Bay you state that the trigger pull of the Remington Model 30 is very poor. Just what is the matter with the pull? Also you state that the trigger sear, and sear pin of the U. S. Model 1917 can be fitted into this rifle by Belding & Mull. Could any gunsmith do this, or could an amateur do it?—J. H. W.

Answer (by Colonel Whelen). If there is any one thing that is more important than all the rest in a rifle it is that the rifle shall have a good trigger pull. Our whole system of marksmanship training is built up around a perfect trigger squeeze. The preamble to the Army Training Regulations on this subject states that the good shot is not the man with a steady nerve or a keen eye, but he is the man who has learned to squeeze the trigger correctly. Also that it is easier to teach a man to shoot correctly who is entirely a green hand, than the man who has done a lot of uninstructed shooting, because the latter has probably learned wrong methods of trigger squeeze and hence absolutely has to correct those faults before he can be any good whatever as a shot.

Now a bolt-action rifle requires a different sort of a trigger than our older types of weapons. The bolt is closed fast and hard when it is operated right, and therefore the sear must stand up high, so that it will surely engage the nose of the cocking piece when the latter comes bang up against the sear. Thus you will find that the sear on all proper bolt-action rifles stands up about 1/16 inch in contact with the nose of the cocking piece when the bolt is closed. The trigger is made so that it has a slack or safety pull. In taking up the slack the trigger first moves to the rear about ⅛ inch against a pressure of about 1½ pounds, and during this movement the sear is lowered until it just barely engages the end of the cocking piece. Thereafter the addition of about 2 to 2½ pounds on the trigger should release the cocking piece and discharge the rifle, without any other movement whatever on the part of the trigger. In other words, the trigger should finally give way like the breaking of a thin glass rod. This is a perfect bolt-action trigger pull. In using it the marksman is trained always to take up the slack or preliminary pull of the trigger as soon as he places his rifle to his shoulder, and before he starts to aim. After having taken up this slack the trigger of course works as an ordinary trigger does, and the man can properly squeeze it and release the cocking piece without disturbing his good aim and steady hold.

Now the trouble is that many men who have never taken the trouble to train themselves to the proper use of a bolt-action trigger, and who do not realize that methods of training in marksmanship have progressed in the past 50 years along with other modern improvements, still insist that they must have a trigger without any slack or preliminary pull. The thing is impossible on a bolt-action rifle from the standpoint of safety. But someone in the Remington Arms Co. who ought to have known much better has so influenced correct design that they have endeavored to eliminate this slack. They could not eliminate it all because that would not be safe, so they have tried to eliminate most of it, with no demarcation whatever between the slack and the trigger pull proper. The result is a trigger that has a most disconserting drag and grate, that no one could possibly control or shoot well with, that one can not discharge when he wants to, and that one must know when it is going off, and so, if he is a recruit or tyro, will be sure to develop the flinching habit with. I do not see how one could possibly do really accurate shooting with such a trigger. I certainly can not.

Owing to the alterations in this trigger the matter can not be corrected without getting a new sear. The sear for the Model 1917 rifle fits perfectly, and one can purchase this through the D. C. M. In the September number of THE AMERICAN RIFLEMAN, in the Dope Bag Department, I explained just exactly what must be purchased, and just exactly how to fit and adjust it. Unfortunately all back copies of that magazine are exhausted. Any skilled gunsmith who is familiar with the proper adjustment of the trigger pull on the Mauser or Springfield rifles can readily fit and adjust the trigger. But not all gunsmiths are familiar with this work. Belding & Mull can certainly do it if you will procure the necessary parts for it.

BLUING SOLUTIONS AND METHODS

CAN you give me some information regarding gun-bluing work? An old gunsmith's book gave me the following directions: "After cleaning, etc., brush with nitric acid, wipe off quickly with clean water, and follow with linseed oil." This process does color some, but not dark-blue or black, as it should be, and am wondering if different steel in olden times showed better results.

I have also used "Nimrod" brand, and would like to know what chemicals they use, if possible. Apparently the first fluid is principally blue-vitriol solution, as it turns the steel to a copper finish. Is there any other chemical mixed in, or would ordinary blue vitriol in the proper solution work as well? The bluing fluid is partly nitric acid, I think, but must contain other chemicals, too, as I tried clear and also diluted nitric acid after preparation, as before, and obtained some color; but it would not take and rubbed right off.

Would like to get some simple formula I could make up myself and do a fairly good job quickly; and this seems to be a good start if I can get the rest of the dope on it.

Is the finish obtained fairly desirable compared to other processes?

Can you tell me any method of securing a black or blue finish on brass? None of the formulas I have been able to find, including the RIFLEMAN book, has the slightest effect except heating it, as near as I can tell, to the fusing point, and then burnishing quickly with linseed oil. This blackens some, but rubs off easily.

I tinker around quite a little, and often get my stock, bolts, and parts of sights handmade, etc., out of brass junk box.—E. L. A. B.

Answer (by Colonel Whelen). I have your letter of January 23. The matter of bluing is entirely too long and too complicated to cover in a letter. With any form of bluing a number of very explicit directions, such as polishing and absolutely free-

ing the work from the slightest trace of oil, even the oil that comes from the mere touching of the steel surface with the tip of one's finger, are very necessary, as well as the application of the solution itself. These instructions can not be given practically in less than about twenty pages, and they have been covered in very complete and practical detail in the book, "Modern Gunsmithing," to which I must refer you.

Among other methods of bluing, the book describes the use of the Hoffman bluing solution. The experience of five years has shown that of all the methods available to the amateur, or even to the small gunsmith, this method is by far the best. The Hoffman method, or several variations of it, are used today by all but two or three of our largest gunsmiths, and this is really the only way of getting good results unless one wishes to install rather expensive equipment. I am not sure that the Hoffman solution can now be obtained. I have had several letters from riflemen who have stated that they have been unable to obtain the solution—that their letters were returned unanswered. The only address I have is the Hoffman Chemical Co., Ardmore, Okla. Griffin & Howe, 236 East 39th Street, New York, N. Y., are now handling a solution very similar to the Hoffman solution called the Johnstone's "Old English Gun-Bluing," which sells at $1.75 a bottle, enough to blue about six barrels. Those who have used it have told me that they consider it a trifle superior to the Hoffman solution, and as the Hoffman solution is excellent I am sure that either will be all right.

For the proper application of either solution I think that the instructions in "Modern Gunsmithing" are absolutely necessary—that is, I do not think that one will get the best results at once in merely following the instructions on the bottle. There are a whole lot of little kinks that are necessary in its application which are described in full detail in this book.

I do not have a formula for securing a blue or black finish on brass; but I should advise you to write to Mr. Clyde Baker, 2100 East 59th Street, Kansas City, Mo., relative to this. Mr. Baker is one of the most skilled of the smaller gunsmiths in this country, and for years he has been making a specialty of gathering various formulas, and of trying our various methods and arts of manufacture, determining the worth of each, and keeping a record of them and their performance, as well as their worth in continued service, and I am sure that he will be glad to give you any information he has. In fact, a few of us have come into the habit of looking to Mr. Baker as a sort of court of last resort when we want to know something out of the way in the matter of gunsmithing methods.

ACCURACY OF 7.62-MM. RUSSIAN—HABITS OF DEER

I WAS very much interested in the article, "The 7.62-mm. Russian Rifle and What Can Be Done With It," in the December (1927) and January (1928) issues of the RIFLEMAN and am seriously considering investment in one of these rifles, but was wondering as to the accuracy of the gun before and after remodeling. Which bolt is the best for the greatest speed and ease in handling?

Do deer forsake their crossings? For several years I have been noting several particular crossings that were used considerably, but this year there is not the least indication that they had been used.

What could a hunting club, hunting on State-owned land, do to attract deer into a hollow where in other years they were so plentiful but for reason of lack of natural forsaken almost entirely? This is asked for the benefit of persons who are very carefeed (apparently this is the reason) have ful and considerate in hunting and who do all they can to help increase and not destroy game. Or will the deer return when feed increases?

Is it wise to use anise seed oil or such preparations on clothing to kill the body odor when hunting deer?—J. J. A.

Answer (by Colonel Whelen). The only ammunition now obtainable for the 7.62-mm. Russian rifle is that made by the Remington Arms Co. and the United States Cartridge Co.; 145- to 150-grain pointed bullet; M. V., about 2,850 f. s.; price about the same as commercial .30-06 ammunition. This ammunition shoots with very good accuracy in these Russian rifles, but the accuracy can probably be improved a little by the intelligent reloader. See the "Ideal Handbook."

The above relates to pure accuracy without the human element. The actual accuracy which will be obtained depends largely upon the skill of the shooter, particularly if he is trained in accordance with our modern system of marksmanship, upon whether the stock fits him so that the various positions as taught in our modern marksmanship training can be assumed, thus insuring steady holding; and upon the sights, which should permit aim with the least error, and proper adjustment of the center of impact. The designs shown in the article by Mr. Linden had in view the use of the rifle by a trained marksman and were excellent.

Of all the bolt-action rifles, the Krag probably permits of quicker firing and of better and easier handling of the breech action; also, it usually offers the best results in a remodeling job.

Now, about the white-tailed deer of Pennsylvania: No one can tell positively what actuates any wild animal. We can only surmise; and from 35 years of hunting and studying deer from time to time, I should personally surmise something like this: Probably the reasons why deer forsake their accustomed crossings or other favorite spots where they have been plentiful for years are, they have been so repeatedly alarmed there that they have learned to avoid them. Wind may blow man scent for a mile; and man scent continually blowing into such places is enough to make deer forsake them sometimes. The feed in such places may have been all eaten or burned off, or feed very much more to their liking may have sprung up in another place, and the old crossing may no longer lead from the place where they used to like to lay up in the daytime to the place where they now like to feed. Many years ago I knew of some excellent deer country in New Brunswick—thousands of deer in it. Then a forest fire came along and burned over a large tract about 15 miles away. In the course of a few years a second growth sprung up in it that the deer were extremely fond of. Now their old haunts are deserted and you have to go to the second growth to find them in any quantities.

Most deer are inordinately fond of salt. Sometimes hanging a bag of rock salt in a tree where it will drip on a piece of ground which is almost constantly kept slightly wet by a small spring (not the spring itself) will cause a salt lick, and when the deer find it and get to using it it may keep them in that vicinity in large numbers. But this place must be remote, near good feed and good laying-up thicket and remote from man noise and man smell, and one should not scent it up with tracks oftener than is absolutely necessary. If you have ten deer using such a lick, and then some night those ten deer smell a fresh man track close to it, the chances are that those ten deer won't come near the lick for a couple of weeks, or perhaps may forsake it entirely. Make your lick where you can examine the country from a long distance with a telescope. Don't go near it until you go to kill or photograph.

Of course, it is possible to kill off all deer in a certain locality who have formed the habit of using certain localities and certain crossings, and the new deer who filter in form entirely different habits, and feed in different places; but I don't think that this would pertain so much to Pennsylvania because you do not kill does or fawns, and these should preserve their old habits unless fear or food make them change.

I don't think anything will serve to kill the man scent or the dread of it with animals except some odor which drowns out the man smell entirely with a smell which powerfully effects either the appetite or the sex impulse of the particular animal. I do not think that anise-seed oil would have any such effect with regard to deer. In fact, I do not know of anything which would be of any use in killing the man smell.

TRAJECTORY OF A .45-70

I WOULD very much like to have your opinion and some information as to the following: Several years ago I bought a .38-56-caliber 1886 Model Winchester rifle. This rifle weighed about 11 pounds, which was too heavy for hunting purposes; so I sent it to the Winchester company and had the barrel cut down to 20 inches and rebored to .45-70 caliber. The rifle at the present is about 8½ pounds in weight.

Using the high-speed cartridge, what is your opinion of this as a big-game gun—moose, deer, and bear? What kind of sights would you advise? Setting the sights at 100 yards, how much below the line of aim will the bullet strike at 200, 300, 400, and 500 yards?—S. DeR.

Answer (by Colonel Whelen). I presume that you are using the Remington .45-70 high-velocity cartridge with 300-grain soft-point bullet in your Winchester Model 1886 rifle which has been rebored to .45-70 caliber. That cartridge gives a muzzle velocity of 1,890 f. s. in a 26-inch barrel; but you have cut your barrel off to 20 inches, so I imagine that the muzzle velocity in your rifle is approximately 1,700 f. s.

In order to obtain the approximate drop of the bullet at various ranges when the sights are set for 100 yards, it is easiest to refer to the trajectory of some similar cartridge having a muzzle velocity of about 1,700 f. s. From the table of trajectories of cartridges in the Remington Arms Co. catalogue I have selected the .38-55 high-power smokeless cartridge as being the best comparable. The muzzle velocity with 255-grain flat-point bullet is 1,700 f. s. The trajectory height at 100 yards when shooting at 200 yards is 8.2 inches. The trajectory height at 50 yards when shooting at 100 yards is about 2 inches. If the sights be set at 100 yards, and it is desired to set them for 200 yards, they would have to be raised 8.2 minutes of angle, which means 8.2 inches at 100 yards, or 16 inches at 200 yards. Therefore, with the sights adjusted for 100 yards the bullet

will drop about 16.4 inches at 200 yards below the point of aim.

The trajectory height of this cartridge at 150 yards, when shooting at 300 yards, is about 21 inches. When a bullet is flying 21 inches high at 150 yards it will be striking about 15 inches high at 100 yards. In other words, when sighted for 300 yards the correct sight elevation will be about 15 minutes above the 100-yard elevation. Fifteen minutes means 15 inches at 100 yards, or 45 inches at 300 yards. Therefore with sights adjusted for 100 yards the bullet will strike about 45 inches low at 300 yards.

In a similar way the drop of the bullet could be roughly calculated at 400 and 500 yards; but as this cartridge is not an accurate one at over about 300 yards, and as the drop of the bullet would be too large at these ranges for any practical use, I have not gone to the trouble of calculating it.

A rifle with 20-inch barrel, shooting the .45-70 high-velocity cartridge, is essentially a big-game rifle, which is limited in its useful range to about 150 yards. Within that range it has plenty of accuracy for big-game shooting and ample killing power for any large game in America. It is a most excellent rifle for moose, bear, and deer in woods shooting, where shots at over 150 yards are seldom or never had.

CHOOSING A SHOTGUN

As a member of the National Rifle Association may I ask your help in selecting a double-barrelled shotgun? I have never owned one and but seldom shoot one. My taste has heretofore been all for rifles.

I am 5 feet 8 inches tall, weigh 140 pounds, and have an average breadth of face and length of neck. I might say also that I am very heavily muscled about the shoulders and upper arms, due to my occupation.

Our shooting here is principally cottontail rabbits, and it is for hunting them that I intend to use this gun more than for any other game. I will also use it less often for pheasants, red fox, and maybe ducks.

With these facts, will you decide which of the four guns which I shall name would be your choice? Shall I get a .20- or a .12-bore (I don't want .16-bore considered)? What stock dimensions? What barrel length? What boring of the barrels? I might say that almost all of the shotguns sold here are bored with right-barrel modified and left-barrel full choke.

I am prepared to pay in the neighborhood of $60, and have therefore picked the gun selling nearest to this figure sold by the standard makers. Here they are: Ithaca No. 2; Fox, grade A; Parker, grade VH; L. C. Smith, grade Ideal.—D. H.

Answer (by Captain Askins). Get a 12-bore, 28-inch barrels, weight 7¼ pounds, and shoot standard shells in it. Right barrel ¼ choke, left ¾ choke, 14-inch stock, 2⅝-inch drop at butt, 1⅝ at comb. You might shoot a straighter stock but not until you get used to this one.

Of the guns—and you do not want to have one made to order—there is no particular difference in the quality of these guns. Write to more than one of the factories and see if they can not fit you best, from stock. Take the one that can, and you won't make any mistake. These are all standard guns.

CHANGING FIELD GUN FOR THE TRAPS

I want to have a new set of barrels made for my No. 4E Ithaca to be used for shooting at the traps, and want to have them made so as to get the best possible results from them. My gun at present has 28-inch barrels and is bored by Ithaca to shoot No. 4 shot in left barrel and No. 5 shot in right barrel. These barrels will break targets, and I have made good scores with them, but they seldom pulverize the target the way a good trap gun does. My friend has two sets of barrels for his Fox, one set with the Super-Fox bore that he uses at the traps, and I tell you when he hits a clay target it goes into dust. Can the Ithaca people bore their guns to give the same good results that the Super-Fox does? Would you recommend it for a trap gun? My gun weighs 7 pounds. How much more weight would you have on the new barrels? Can the same foreend be used as for the auto ejectors and save price of new one? (My gun has auto ejectors.) About what would these barrels cost?

Please tell me all that you think I should know before I send my gun to Ithaca to have these barrels made.—S. H. F.

Answer (by Captain Askins). Trap guns, for the continuous work they have to perform, should weigh about 7¾ pounds; very often do weigh eight and a half. I doubt if you can get barrels to bring your gun up to this weight and still maintain balance. Also I think if you are very much interested in trap-shooting—want to win—that you will do better having a gun with trap stock measurements; that is, a straighter and longer stock than you use in the field. I wouldn't myself try to use a field gun with heavy barrels for trap-shooting. I'd rather have a cheap Ithaca single-barrel, which wouldn't cost you as much as the new barrels will for the No. 4. Barrels, if you get a double- or a single-barrel gun, should be preferably 32 inches long. That would bring up the weight of your present gun, but it would also put a lot of weight out in front of the left hand, and it would be remarkable if the gun didn't become muzzle heavy. You can submit that question to the Ithaca Gun Co. if you want to. I have no doubt whatever but the Ithaca company can make the trap gun to shoot as close as any such gun should shoot.

AMMUNITION FOR .455 ELEY GUN

What is the difference between the .455-caliber Webley, Mark II, cartridge as made by Remington and the .455 Eley as found in the Colt catalogue and inscribed on the side of barrel of the .455 New Service, which I have? I want to know if the Webley, Mark II, .455 cartridge is right for my New Service .455 Eley. It is the only thing listed in the Remington ammunition catalogue and has a 275-grain ball.

The gun I mention, I have just bought secondhand from a party advertising in the Rifleman from Buffalo, N. Y., and it has very small crossed flags stamped on left side of barrel at breach and some other very small insignia stamped on left side of frame above thumb latch. What does all this indicate? My gun is in good shape; shoots fine, and I like the cartridge better than any large caliber I have ever used. Is this the cartridge that is used so extensively in England for target practice, and is it really accurate enough for the finest target work?—L. C. T.

Answer (by Major Hatcher). The .455 Webley, Mark II, cartridge as made by Remington is the same as the .455 Eley illustrated in Colt's catalogue.

The Webley, Mark II, as made by Remington is correct for the .455 New Service Colt revolver.

The small crossed flags and other marks stamped on your gun are inspectors' marks. Probably this gun was made for the Canadian Government.

This is the cartridge that is used very extensively in England, and it is very accurate.

WISHES INSTRUCTION IN DISMANTLING AND REASSEMBLING .45 COLT AUTOMATIC

I have a Colt .45 automatic Government model of August, 1913, and was wondering if you would kindly instruct me how to dismount it for cleaning and how to assemble it again.—J. H. W.

Answer (by Major Hatcher). To describe fully the disassembling of the automatic pistol practically requires a picture of the pistol with all the different parts and numbers, so they can be referred to in the description.

This information is all given, together with many other interesting details and descriptions, in "Training Regulations, 320-15, Description of the Automatic Pistol," published March 3, 1924.

This pamphlet can be obtained by writing to the Superintendent of Documents, Government Printing Office, Washington, D. C., enclosing 5 cents in coin for each copy desired.

CONCERNING THE MODEL 1917 SMITH & WESSON AND COLT GUNS

I would greatly appreciate it if you would answer the following questions in regard to the Model 1917 Colt and Smith & Wesson revolvers listed by the D. C. M.:

1. Are they in good mechanical condition?
2. Condition of finish.
3. Can they be rechambered for the standard .45 Colt cartridge?
4. If so, who does this work and what is the approximate cost?

Answer (by Major Hatcher). Your questions are answered in order, as follows:

1. These guns are in good mechanical condition. Most of them have been used but have been gone over thoroughly in the repair shop and are in first-class serviceable order.

2. The finish is not perfect on any of these guns, as they show signs of wear. Sometimes you can get better-looking guns than others, depending on luck.

3. They can be rechambered for the standard Colt cartridge.

4. This work is done by the factory. It involves fitting a new cylinder and side plate in the Colt, and involves certain gunsmithing work also in the Smith & Wesson. The price of the work is $7.57 for the Smith & Wesson, and probably about the same amount for the Colt, though I have not the exact figures.

WISHES BOOK GIVING INFORMATION ON RECOIL

Can you please let me know where I can buy a book telling about recoil, in foot-pounds, of all rifles and shotguns?—J. G. F.

Answer (by Major Hatcher). I do not You might refer to Tschappet's "Ordnance and Gunnery," in the New York Public Library, which has a chapter with some information on that subject.

You can get the figures of recoil in foot-pounds on every rifle and shotgun by reference to the table of ballistics in the catalogue of the Winchester Repeating Arms Co.

REGARDING RECHAMBERED KRAGS

REFERRING to your letter of March 9, 1927, in which you advised me to have certain Krags rechambered and throated to properly receive the modern Springfield bullet, would advise you that Mr. Niedner has recently completed said job.

I find that in hand-loading either low- or high-velocity ammunition, I can have the bullets throat up well on the lands, sufficiently tight to cause the lands to actually leave a print on the bullet if I desire to do so. I do this by holding a bullet up into the throat with a pencil, pass a cleaning rod down the muzzle and mark rod with chalk at the muzzle close up. With rod resting on bullet point, I then adjust my B. & M. bullet-seater so that when the loaded case is chambered in the gun, the chalk mark on the rod corresponds exactly as to position when rod is resting on bullet point of loaded case as it did on bullet point previously held in throat by pencil. The commercial ammunition seems to rest lightly on lands when chambered. All of which brings us to a point where we feel the need of more light. And to get at the bottom, will briefly capitulate my former description of these Krags (three of them). Pure-lead .32-caliber bullets pressed through these rifles each measured as follows: .3075, .308, and .3082 inch.

It is natural to assume that all the ballistic data available on the Krag is based or taken from the regulation throat and chamber and a groove diameter measuring anywhere from .308 to .311 inch, or even as much as .312 inch +, with the chambers and throats of same liberal tolerance.

In considering the close tolerances in groove diameter, chamber, and throat of my rifles described, I find the comparative density of loading very much lessened as to that of the regulation Krag, which, as Mr. Mattern puts it, "takes us right back to the beginnings of cartridge design."

What I would ask of you is this: Would you venture an estimate of the probable increase in breech pressure and velocity of the commercial ammunition, as, for example, say, Remington 180-grain bronze-point expanding bullet, velocity 2,500 f. s.? Or Western 220-grain B. T. Lubaloy bullet, velocity 2,060 f. s.? Is there any question as to the safety of these loads in such rifles?

In hand-loading from Mr. Mattern's tables as per "Handloading Ammunition," about how many grains less of powder should one use to expect similar velocities shown by tables? How about breech pressure? Would it be dangerously near the limit to use his heaviest loads given for Krag?

I have not shot these Krags since they were altered, and will not until I hear from you.—J. A. C.

Answer (by Colonel Whelen). With regard to the safety of loads and factory cartridges. All of the loads we have, particularly the maximum loads, are based on velocity and pressure figures obtained by the Government, the du Pont company and the Hercules company. In taking pressures, all of these use pressure guns which have the standard groove diameter of .308-inch, and the standard Government Krag chamber. Therefore, the only way in which your barrel differs from these barrels is in having a slightly tighter chamber throated for the pointed bullets. By referring to the "Ideal Handbook," without which no one should reload any ammunition, at the head of the tabulation of the loads for the Krag rifle, you will find the caution, "If barrel has tight chamber, or if throated for pointed bullet, reduce all maximum charges 2 grains."

With regard to factory-loaded ammunition, all such factory ammunition has a factor of safety introduced. Pressures of factory ammunition of any kind for the Krag are probably never over 40,000 pounds. The highest permissible pressure in a Krag rifle in thoroughly first-class condition is about 43,000 pounds, but to be on the safe side with all kinds of rifles in all kinds of condition we place this at 41,000 pounds. I think that you are perfectly safe in using these Niedner barrels with any commercial Krag ammunition.

The effect of a tight chamber, plus a tight throat, is to reduce the density of loading, and consequently increase the pressure slightly. The increase in pressure probably balances the decrease in powder, so that a load 2 grains weight less than normal load in a tightly chambered .308-inch barrel, will probably give the same muzzle velocity as the normal load.

SMALL-BORE TROUBLES

HAVING a rifle which proves itself a riddle, I'm going to ask your assistance. About a year ago I had a Winchester 52 made with stainless barrel, fancy stock, etc., and did inlaying and oil-finishing myself. In fact, I am very much in love with its appearance, as well as its ability to hit where you hold. But try as I may from muzzle rest, the groups are wild—I mean laying muzzle over sand bag and merely holding butt to shoulder—also, shooting prone and holding rifle loose. I can't figure it out. I have smoothed the bolt well in which is housed the mainspring, cut off part of spring to lighten blow, filed the firing pin a little, smoothed the trigger pull, reset the barrel in stock—in fact, gone over every detail I have read about in the writings of yourself, Crossman, Wotkyns, and others in various books and magazines, and cursed till my other shooting half refuses to remain in my presence; and still scratching my head as to why I have to freeze into it so hard to make my possible. And this, of course, tires me in a 100-shot match.

I use a Fecker 8 x 1⅛ objective—post with lateral hair. Now, this error is not in my head or faulty holding, as I have another 52 barrel cut to 22 inch and stock worked over as well as action with Winchester 5A scope, Fecker reticule, which the wife shoots; and also a standard 52 which I can shoot from muzzle rest and a loose prone and make splendid groups with. But the rifle made to fit me I have to hang onto and freeze till I'm petered out in the course of 150 to 200 shots.

I only lost two matches in the year of 1927, and those my "liability" won, while I took second. I love to experiment, and I use the .22 pistol and rifle two and three times a week. S. J. L.

Answer (by Colonel Whelen). I have yours of recent date. When I first read it I thought that undoubtedly your efforts in changing the firing pin and lightening the mainspring were the source of your trouble. It takes a mighty good man to improve on the shape of the firing pin, and almost always if the mainspring is lightened there will be trouble. Alterations in these parts are very apt to give poor ignition, and thus ruin the shooting of a .22-caliber rifle. I have seen many excellent rifles temporarily ruined so far as good shooting was concerned by injudicious alterations to firing pin and mainspring; and I have also seen some rifles which shot rotten changed into most accurate pieces by expert work on firing pin and mainspring. In the great majority of cases the ignition on the Winchester Model 52 rifles is excellent and just right as they come from the factory, and they should not be tampered with except by the factory.

But when I read the rest of your letter I was not so sure that your trouble was one of ignition. Apparently by "freezing," whatever that means, you can get good scores. Now, if there was serious ignition trouble no manner of holding would give you good scores. You send along a clipping showing that you made a score of 100. One does not get scores of 100 except by pure luck in a rifle which has poor ignition. I am therefore inclined to think that very likely some or parhaps all of your trouble may be due to a nervous disposition. If so, it is difficult to overcome this, and only careful practice will do so. I imagine that by "freezing" you mean holding very hard under a nervous tension. Such kind of holding makes shooting very hard work, and does not make for steady high scores, although it may give an occasional good score. The good shot does not hold that way. He holds firmly, but he does not put undue muscular effort into it. Particularly he does everything methodically, slowly, exactly the same every time. To watch him move you would think that he was half asleep. He gets down to the firing point slowly. He arranges his telescope and his cartridge block exactly in the right positions. Then he carefully and slowly assumes the position. He may move slowly around on the firing point a little until he gets a position that exactly suits him, in which he can hold steady and comfortably. When he has his position just exactly right he seems to "go to sleep" in it. He puts his rifle to his shoulder slowly, but exactly, holds firmly but with no great effort. Having fired he brings his rifle down slowly and exactly the same each time. His position is exactly duplicated each time, with no variation whatever as to the tension with which he holds or the position. Particularly he does not fidget around on the firing point, does not change his position or his elbow holes, or the position of his sling on his arm, or the position of his face on the stock, or the position of his left hand. He gets right at and before the first shot, and after that he does not change. Such a man will always beat the man who fidgets around on the firing point, who changes his position continually, who fumes and sweats over his score, or who holds unduly hard. These remarks may help you a little—that is, if you have these faults they will show you how to go to work to eliminate them. You can not eliminate these faults at once. You have to try and try and try to overcome them. Perhaps in three or four months you can gradually change entirely your ways of moving and behaving on the firing point to the very great improvement of your scores.

Do you happen to have a copy of Captain Crossman's book, "Small-Bore Rifle-Shooting"? If not, by all means get a copy right away. There is a whole lot of good horse sense in that book, and, in fact, all the dope that one needs to make himself into a fine small-bore shot, or to get together the very best equipment at the minimum cost. I do not see how any small-bore shot can possibly afford to be without the book. If you have it, study it carefully, particularly the portion relating to making higher scores.

ADVICE TO A BEGINNER

WHAT handbook on marksmanship would you recommend to a novice in the game—something that covers such humble beginnings as trigger-squeeze, position, and the things a man must learn before he can begin to start making a rifleman of himself? It will have to be the small-bore at first for lack of space, and financial reasons.

What arms and special sights, if any, would you recommend for a beginner who, using a Lee 6-mm. rifle, open sight, at the present writing just about keeps in an 8-inch circle of 60 yards?

These super-accurate, super-costly, gilt-edged jobs with telescope sights are out. Such an arm is too much gun to have in a boarding house. Anyway, I couldn't appreciate it until it was most likely worn out, and for my income it would be plain extravagance.

But I want to learn as much as I can for myself, and I want to learn right from the first of the start; so I'm troubling you for such advice as you care to give—O. R. D.

Answer (by Colonel Whelen). I have your recent letter. I am glad that you wrote to me as you did as it gives me a chance to say a lot of things that beginners in rifle-shooting and, indeed, many men who have been at it a long time, should know and appreciate.

There is no such thing as a natural-born rifleman. Good rifle-shooting is a matter of training, and there is only one successful system of training, and only one correct method of shooting. The great majority of men interested in rifles and rifle-shooting, either from the standpoint of target-shooting or hunting, are not good shots, and they will never become good shots no matter how much they practice or what expensive rifles or equipment they obtain, until they train themselves in the proper manner and by the proper system. Moreover, until they do this they will have no comprehension whatever as to what constitutes a good rifle, good sights, and good ammunition. The great majority of the Dope Bag correspondents do not realize these things. They write to me stating that they are thinking of obtaining such and such a rifle, and it is perfectly clear from their letters that they are entirely untrained as rifle shots, and also that they are making a very grave mistake in their choice of weapons. But what am I to do? When a man writes to me asking what I think of a certain piece of equipment which he is thinking of getting it is entirely against my policy to try to induce him to purchase something else by some other maker instead. If there is nothing else by that same maker which will better fit his needs, then I have to tell him that what he suggests will not suit at all, and I am also forced to write him a very long letter in explanation which takes very much time and labor, and as a result I am getting more and more behind-hand in my replies, for the day and night are only just so long and the mass of the Dope Bag correspondence is getting almost too large for one man to handle alone. Also, the chances are that this correspondent will not appreciate what I write, for he has no comprehension of the underlying principles of good rifles and good shooting. A man who tries to train himself without any guide is making a bad mistake. He merely fixes bad habits of shooting, and these must be unlearned before he can progress. He is merely wasting his time and his money in practicing with inefficient rifles and with no knowledge of the principles of good shooting.

Occasionally one comes across a man who has never heard of a system of training and of shooting the rifle, and who is, nevertheless, a most excellent rifle shot. He is not a natural-born shot. He is merely one who has used his brain, and who has logically thought out a system of shooting which, because of the great common sense he has shown, is practically identical with the only successful system. The average lover of the rifle, however, never has had any instruction in shooting, and never will get anywhere until he studies the proper system and trains himself in that system. Then an entirely new world of rifle-shooting and rifles will open up for him. He will realize that by following this system he can, if of average physique and good eyesight, either with or without glasses, very quickly train himself into a nail-driving marksman, a really practical rifleman, a dead shot either on target or game. Can you drive tacks at 50 feet, make possibles at 600 or 1,000 yards, or fire 5 shots in 15 seconds and put them all in an 8-inch bull at 200 yards? That is the kind of rifle-shooting you ought to and can develop, and I am sure that the kind of rifles and ammunition you wish are those which respond to such skill.

I would therefore strongly advise you to send 10 cents in coin (not stamps) to the Director of Civilian Marksmanship, War Department, Washington, D. C., for a copy of "U. S. Army Training Regulations No. 150-5, Marksmanship, Rifle, Individual." It is the Army manual on rifle training which gives completely and in the most practical manner the only successful system of training men to be first-class modern rifle shots, and it is absolutely essential for any man who uses any rifle. I do not for the life of me see how any man who shoots a rifle can get along without it. He is merely struggling in the dark until he gets it. Study it from cover to cover. Train yourself hard in strict accordance with its teachings. Do not flatter yourself that you can deviate from it or succeed by using some other system, for you can not. By this system only can you reach the highest degree of skill in rifle-shooting. It is the system used by every rifle shot of note. It is the system used by all the rifle teams at the National Matches, and by the Small-Arms Firing School at Camp Perry.

When you have trained yourself by this system you will find that not only have you become a fine shot, but your ideas as to rifles and ammunition will have taken a most decided change. You will be demanding rifles with stocks so shaped and proportioned as will permit you to use the steady firing positions you have trained yourself to assume; with trigger that you can squeeze properly; with types of breech action which make for the highest degree of accuracy; with sights which are not only accurate (peep, not open) but which can be adjusted to cause the bullets to strike where you aim the rifle. You will demand that the rifle shall have a shooting sling, and that the swivels be placed in certain positions. The rifle must be chambered for accurate ammunition; not all types are really accurate. It must have a barrel of a certain weight. You will realize that no one can possibly sight your rifle in for you except yourself; that graduations on sights mean nothing until you yourself have determined their value; that every successful rifleman keeps a scorebook in which it is not at all necessary to keep your score, but essential for the keeping of all ballistic data and records relative to that particular rifle and ammunition. And lastly, you will learn that all the time, thought, and labor and money also that you spent before you trained yourself was largely wasted.

The 6-mm. Lee straight-pull rifle that you have will hardly be worth putting much effort on for several reasons. The rifle and its ammunition have been obsolete for 30 years. Any ammunition that you can now obtain will be so stale as to be quite unreliable, and in addition is of very old type. Probably no more of this ammunition will be made after the present supply, probably loaded twenty years ago, is exhausted. As the rifle is so obsolete there is no incentive to produce good modern ammunition for it, and there are no good bullets available in this caliber so riflemen can not reload fresh ammunition. No good, accurate adjustable sights are made for the rifle. It is very difficult to obtain a really good trigger pull with it, and good trigger pull is the whole essence of a good rifle.

As a first step I should advise you, as soon as you can afford it, to obtain a first-class small-bore rifle, either a Winchester Model 52, or a Springfield .22-caliber M1 rifle, with a Government leather gun sling. Also, at the same time obtain a copy of Captain Crossman's book, "Small-Bore Rifle-Shooting." The book is essential. No one should attempt small-bore shooting without it. T. R. 150-5 gives the basic principles of good shooting and tells in detail how you should train yourself. "Small-Bore Rifle-Shooting" applies these principles to modern sporting and target rifles, chiefly of .22 caliber, but the book is really applicable to all calibers as the principles of the .22 apply also to larger rifles. Then go in for small-bore shooting. This is the great training school. Our experience shows us conclusively that a man can train himself basically with the .22-caliber rifle in small-bore shooting so that when he takes up the large rifle he has scarcely anything to learn, and is a fine shot with that rifle from the very start. In fact, the records in the Regular Army show, for the past two years, that the organizations which have stood highest in their annual qualification course with the .30-caliber rifle are those which have previously put in the greatest amount of time in training with the .22-caliber Springfield rifle. You will also find that a .22-caliber small-bore rifle will probably suit your pocketbook and your way of living much better than any other rifle.

HANDGUN FOR OUTDOORSMAN

I NEED some information on revolvers. I understand that you favor the .44-40. I am considering buying a gun to be used in the Rockies. I will be in the Forest Service, and will use it often in preference to carrying a rifle.

Which do you consider the best of the following calibers, considering, first, ranging power, and then shocking power: The .44-40, .44 S. & W. Sporter, .45 Colt, or the .45 Colt Auto.?

I desire the longest range possible, with a maximum shocking power, also considering accuracy.

What do you think of the .45 Colt Auto. for an all-around gun, considering, of course, cheapness of shells through N. R. A.?—R. R.

Answer (by Major Hatcher). From your letter I think that what you want is the gun which is most efficient ballistically—in other words, the one in which the bullet

keeps going longest without losing a large percentage of its energy in overcoming air resistance.

The most ballistically efficient pistol bullet that we have today is the .45 automatic pistol bullet, 230 grains, as fired in an automatic pistol or in a Model 1917 revolver.

This bullet loses only 5.9 per cent of its velocity in the first 100 yards, and it loses 11.7 per cent of its energy in the same distance. The .44 Special is the next in line, losing 7.2 per cent velocity and 13.8 per cent energy. The .45 Colt loses 7.7 per cent velocity and 14.8 per cent of its energy. The .44-40, on account of its flat nose, is very inefficient as far as carrying up in long ranges is concerned. It loses 12 per cent velocity in the first 100 yards and 22.6 per cent of its energy.

The muzzle energy of these cartridges compares as follows: .45 Colt Smokeless, 330 foot-pounds; .45 Automatic model, 340 foot-pounds; .44 Special, 370 foot-pounds; .44-40, 370 foot-pounds.

Nevertheless the diameters of the .45 Colt and the .45 Automatic model are bigger than the diameters of the .44 Special and the .44-40, which compensates for their slightly smaller muzzle energy when it comes to figuring their shock power.

Figuring their shock power at the muzzle as equal to the sectional area of the bullet in square inches, multiplied by the muzzle energy in foot-pounds, we get a figure of 54 for each of these four bullets. However, at 100 yards the .45 Automatic will be ahead, as it does not lose so much as the others do.

I think the best gun would be the Model 1917 Colt revolver as sold by the Director of Civilian Marksmanship. The best cartridge to use is the lead bulleted auto-rim, as made by Peters or Remington, but you can use the metal-jacketed. 45 Government cartridges also.

HEAVY LOADS FOR .45 COLT

WHAT do you consider a safe maximum overload for .45 Colt revolver? I am interested in getting all the smash out of a revolver that is possible.—S. G. W.

Answer (by Major Hatcher). One way to get a very heavy load with a .45 Colt revolver is to fill the case up to the base of the bullet with FFG black powder. If you wish, however, to use a smokeless load, two very high power loads are Bond bullet A-454690, with 9 grains of du Pont's pistol powder No. 5, giving about 990 f. s., and Belding & Mull bullet 454250, with 15 grains of No. 80, giving 925 f. s.

SPECIAL NOTICE

As this issue of THE AMERICAN RIFLEMAN reaches the hands of its readers, Colonel Whelen leaves for his big-game hunt into Northwestern Ontario, to be gone six weeks. Letters sent in to this office for Colonel Whelen's attention will be held here until the Colonel's return. It will take Colonel Whelen a little while to get caught up in this correspondence after returning, and writers are requested to be as patient as possible during this interval.—EDITOR.

THE SHOT CHARGE IN ACTION

(Continued from page 15)

still remains, the result of shot which at the beginning flew in more or less welded masses.

I am personally about willing to concede that without shot-column elongation at the muzzle, and without an elongated flying pattern, we can not keep within the choke-bore circle. If we wish closer patterns than those obtained today, we will have to pay for them in a still longer "drag." We are not willing to pay for any more of that sort of thing, and a 24-inch spread at 40 yards is about the narrowest that we can tolerate. What we are looking for now is not a narrowing or lengthening of the column in flight, but an increased number of "effectives" (uninjured pellets) and a shortened drag.

Sweeley says this is to be accomplished by a reduced crimp, by reduced cone action (practically no cone) and by a shot jacket which will shield the shot from contact with the steel, and yet permit choke squeeze and column elongation. Such device must invariably and absolutely free the shot at the muzzle, and never act as an after-muzzle concentrator.

Pattern No. 6 is from one of Sweeley's duck loads, containing 4 drams of du Pont De Luxe powder, expanding metal wad and 1¼ ounces of No. 4 shot enclosed in a jacket. The muzzle velocity of this load is said to be very high; but as to this I have no authentic figures. The pattern approaches the ideal, though the effect of the choke is seen in a certain amount of patchiness, indicating a minor degree of shot welding. The pattern might be compared with No. 2, which was shot at the same distance with a naked shot charge.

No mass of shot went through the center of pattern No. 6, no wads reached the paper and the pattern has no center density. We can conceive that the shot left the muzzle in a narrowed stream rather than in masses welded together. Comparing the pattern with No. 2, we see that the even spread of the Sweeley load is somewhat the wider, but every pellet is supposed to be left in shape to fly true, and there would be less spread due to pellets that could not maintain a straight course. I have no direct proof of this except that if Tatham's shot were used the load contained some 166 pellets; and of this number, when the load was fired at forty yards, 142 struck the 30-inch circle, showing that but few of the missiles had shot out.

Future improvements in shot patterns may come from a reduced cone action, from a progressive powder which would develop higher velocities with less initial shot column jam, and may come from some form of shot jacket, thus saving the pellets from shot deformation and the great tail that we now have to the kite.

P. S.—This article might be taken as a reply to Colonel Cutts' account of the behavior of his Compensator; but it is not, since the foregoing was written half a dozen years ago and never published. It is still about as pertinent as it ever was; and if anything has since been added to our knowledge of the behavior of shot after leaving the muzzle it is because of Colonel Cutts and his Compensator. Sweeley constructed beautiful loads, but they never proved practical in machine-loading, so have been of very little benefit to the shooting fraternity.

The Arms Chest

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THE uniformly excellent returns from advertisements appearing in these columns make them a very satisfactory medium for the disposal of guns and accessories no longer needed, and for the acquisition of similar articles.

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GUNSTOCKS—French or Circassian walnut, sporters from $2.50, delivered free; quality de luxe from $5 to $20. Mitchell Bosly, Ltd., 75 Bath St., Birmingham, England. 10-28

OUTDOOR LIFE AND RECREATION combines in a single magazine the most popular features of two great publications—*Outdoor Life* and *Outdoor Recreation*. Published at Denver by John A. McGuire, the new combination is continuing the traditions of *Outdoor Life* and offering an even larger proportion of stories and articles on big-game hunting and rifle shooting. The great Gun and Ammunition department edited by Charles Askins will contain features by Colonel Whelen and others of the most trustworthy experts in that field. The new magazine is considerably larger than either of the two publications which have been combined and the increased space is permitting a far wider variety of gun and hunting material in every issue. The price of the new publication is twenty-five cents a copy, $2.50 a year—the lowest price at which any outdoor magazine of equal size can be secured. As a special get-acquainted offer to readers of THE AMERICAN RIFLEMAN, a trial five issues will be sent for $1. *Outdoor Life and Recreation*, 1802 Curtis St., Denver, Colo. 9-28

WANTED — AMERICAN FIREARMS BEFORE 1876. IF YOU HAVE ANY, ADVISE.
S. HAROLD CROFT,
BALA-CYNWYD, PA.
12-28

WILL PAY CASH for any type and quantity of cap-and-ball revolvers or pistols in good condition, particularly if in cases with accessories. Write giving description and price. McMurdo Silver, 846 W. Jackson Blvd., Chicago, Ill. 4-29

SEE WHAT $4.75 WILL DO!—It will buy a year's subscription to *Field and Stream*. It will buy a year's subscription to THE AMERICAN RIFLEMAN; and, to American citizens of good standing, the subscription to THE AMERICAN RIFLEMAN will also include a year's membership in the National Rifle Association! Where can you get more for your money?

SAVE THE "RIFLEMAN" FOR FUTURE REFERENCE! ENTIRE YEAR 1927 BOUND IN LEATHER, $7.50. ALSO JUNE 1, 1925, TO JUNE 15, 1926, AT $7.50. LAST HALF OF 1926 AT $5. THE AMERICAN RIFLEMAN.

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FOR SALE—New 12- and 15-gauge Browning automatics and extra barrels. Big bargains. Stamp for illustrated circular. Box 303, Colorado Springs, Colo. 10-28

FOR SALE — Handloaded ammunition to your specifications for extreme accuracy at target or game. Write for prices. C. P. Beals, 411 East 14th St., North Kansas City, Mo. 9-28

KRAG AND RUSSIAN rifles remodeled, cut-off barrel, put on front sight, remodel stock, $6.50. S. H. Fryer, Jr., 820 Hancock, Vandergrift, Pa. 9-28

USED FIELD GLASSES—Zeiss, Hensoldt, Mirakel, Bausch. What have you in exchange? J. Alden Loring, Box NR, Owego, N. Y. 10-28

FOR SALE — 6.5-mm. Mannlicher-Schoenauer by Jeffery, with 20-inch ribbed barrel, takedown, fine pistol grip stock, price $125. A. J. Backes, Easby, N. Dak. 9-28

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should have its place in every true gun-lover's library.
To make this possible, we are quoting a special price of $6.00, which will also cover a copy of Colonel Macnab's instructive booklet, "Pistol and Revolver Training Course."
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THE AMERICAN RIFLEMAN
Barr Bldg. Washington, D. C.

WANTED—.22 rifle; .38 Special S. & W. or Colt; .380 Colt. State condition, price, barrel length. K. H. Munroe, 21 E. Holly, Pasadena, Calif. 9-28

FOR SALE—Muzzle-loading over-under shotgun rifle, 16-gauge and .44-caliber barrels in good shooting condition. Will trade for 10-gauge Winchester shotgun. Harold Ong, Hannibal, Mo. 9-28

WANT—Hunting scope; trade 5A Winchester. WANT—.250-3,000 Savage 99G; trade Colt auto. .22 target. Have several guns. Clyde Strickling, West Union, W. Va. 9-28

FOR SALE—Ballard double set trigger action and stock, in perfect condition, $15. V. T. Smith, 1008 Woodward Bldg., Washington, D. C. 9-28

FOR SALE—Bisley Model Colt, very good condition, .44-40, 7½-inch, with holster, $40. A. B. Carlton, 819 Howard St., Evanston, Ill. 9-28

FOR SALE—540 .30-06 cupro-nickel 150-grain cartridges, 1915, $8; 1,000 .30-06, 150-grain cupro-nickel bullets, $5; 150 .30-06 180-grain cupro-nickel bullets, $1.50; 50 F. A. .30-06 primed shells, 50 cents; 1 .380 Savage pocket automatic, new, has special hammer, $15; 1 Colt Police Positive .38 S. & W. cartridges, $15. F. R. Getz, 730 Fifth Ave., New York, N. Y. 9-28

FOR SALE—Colt Detective .38 Special, 2-inch, crank condition, 145 cartridges, $23.50. Marble Game-Getter, 12-inch, never used, no holster, $18. Remington .22 auto., Model 24, gold bead front, all perfect, $20. W. B. Parker, Conway, N. H. 9-28

SELL—16 Browning auto., full rib, almost new, $55. 12 Remington auto., full rib, 28 fine, $45. Duxbak duck-shooter's coat, 42, new, $9.50. WANT—10 Ithaca, new model, 1 trigger. Charles Hoffmeister, Imperial, Nebr. 9-28

WANTED — Crank condition, restocked N. M. Springfield, in sporting type; give stock measurements. Also 2½ or 3X scope and mounts for same. Dr. S. A. Merriam, Dixiana, Ala. 9-28

TRADE—Camera, Pony Premo, 4 x 5, RR lens, tripod case. What ye got? F. A. Norton, Elgin, Ill. 9-28

FOR SALE—Colt .45 New Service Target, new condition, $35. Colt .45 automatic, good, $18. H. M. Williams, Punxsutawney, Pa. 9-28

SELL—Colt 5½-inch .32-20, single action, perfect, $30. WANT—Perfect .33 W. C. F. barrel. Arden Laubach, Carter, Mont. 9-28

FOR SALE—.30-06 Mauser, fine Tait stock, Niedner barrel, 24-inch, Lyman 48, practically new, cost $125, sell for $75. Cottrell, Harrison Valley, Pa. 9-28

TRADE—Case thousand .30-06 and five hundred .45 automatic cartridges for absolutely perfect .22-32 S. & W. or Zeiss or Fecker scope or monocular. W. E. White, Manette, Wash. 9-28

FOR SALE — Ammunition bargains: 16-gauge black-powder shells, $1.50 per hundred; 465 Winchester S. P., $1 per box; .32 and .38 S. & W. blanks, 60 cents per hundred; many others. Also cartridges for collectors. Empty rifle and revolver cartridges. Five-cent stamp for complete lists. Chas. Shattuck, Route 10, Dunkirk, N. Y. 9-28

FOR SALE OR TRADE—10-gauge double hammerless prewar Parker, 40-inch barrels, genuine long-range wild-foul gun, kills at 80 yards and then some; condition good inside and out; want $125, or trade for lighter 12-gauge automatic or A1 double. L. C. Read, Sandusky, Mich. 9-28

WANTED—.22-caliber Maxim silencer; state condition and price. Sell service Springfield, $20. Leonard Parke, R. F. D. No. 3, Pontiac, Mich. 9-28

FOR SALE—Forms to cast lead Soldiers, Indians, Marines, Trappers, Farm and Wild Animals; 210 kinds. Send 10 cents for illustrated catalogue. Henry Schiercke, 1034 72nd St., Brooklyn, N. Y. 12-28

TRADE—23-jewel Elgin Veritas, in solid silver case, for Springfield Sporter in good condition. Sam H. Smith, Claude, Tex. 9-28

FOR SALE—National Match Springfield, $30. Modern-Bond double-cavity mould for .38 Special 113- and 150-grain bullets, mould and dipper, $3. Your money back if you want it. Harry A. Timm, Muscatine, Iowa. 9-28

SALE—Manhattan cap-and-ball revolver, .36-caliber, 5-shot cylinder, engraved, $6.50. Stanley Schomaker, R. F. D. No. 5, Saginaw, Mich. 9-28

FOR SALE—My .25-20 Winchester, Niedner, single-shot rifle, new barrel, new stock, barrel of chrome-nickel steel, 26-inch, fitted with Lyman No. 53 receiver sight, Lyman ivory bead, single set trigger with loading tools. Will take $65. Write me for further particulars. No trades. E. W. Leech, Gaffney, S. C. 9-28

WANT A MEAT-GETTER?—Winchester, Model 73, .38-40, good as new, $20. E. O. Cisne, R. F. D. No. 2, Cisne, Ill. 9-28

FOR SALE—.32-caliber Savage automatic pistol, with 3 extra magazines; all are in fine condition; will take $15 for them. E. Tory, P. O. Box 187, Earlham, Iowa. 9-28

SALE—Springfield Sporter, Lyman sights, perfect, shot hundred times, $48. Smith & Wesson .22-32, new, $27. Allyn, 14 McKinley St., Albany, N. Y. 9-28

SHIFT WITH THE HOUSE OF SHIFF, North Woodstock, N. H. The only House of its kind or size that NEVER handled a cheap or inferior make, with nothing less than RIGHT at ANY price. Many are already renting guns for the season. Exchanging more than ever before. First-class cartridges .06, .35 and .33 Winchester, 7.8- and 9-mm., 5 cents. 100 best-make rifles and shotguns, $20 to $35. Latest list for stamp. Never can get enough; but no others approach the number of the finest S. A. Colts handled. 9-28

GUN-RESTOCKING—Plain or fancy Springfields, Krags and Russians specially. Prices reasonable. J. C. Denham, 8 Spring St., Xenia, Ohio. 8-29

FOR SALE—Aluminum International butt plates for Springfield, Model 1922, and Winchester 52 stocks in rough, $1.25. Finished and highly polished, $2.25. Used leather service slings, 75 cents. New Kerr slings, 60 cents. 20X spotting scope and folding stand, $15. If the target shooter uses it, I have it. Write. Chester Nikodym, Box 1797, Cleveland, Ohio. 9-28

WANTED—World War relics German Army, carbine or rifle; .22 Colt Automatic Woodsman; state full particulars first letter. F. L. Barth, c/o Box 441, Olean, N. Y. 9-28

WANTED—Double-barrel high-velocity rifle, about caliber .470. J. T. Maxwell, 1140 Medical Arts Bldg., Omaha, Nebr. 9-28

TRADE—ICA Movie camera, spring motor, Zeiss lens, Standard film, perfect condition, for National Match Springfield, like condition. D. M. Stump, 546 N. Cuyler Ave., Oak Park, Ill. 9-28

KRAG OWNERS—A Krag knife bayonet, slightly used, but in good condition, mailed postpaid on receipt of $1.50. Chester Nikodym, Box 1797, Cleveland, Ohio. 9-28

FOR SALE—Niedner Springfield, 30-inch, Lyman 48, Winchester front, Mann-Niedner scope mounts, 5A Winchester scope, Niedner double set triggers, adjustable, lightened firing pin, beautifully checked light-walnut PG stock, been shot about 100 rounds, 1-inch groups at 200 yards, $80. No trades. Address J. Mracek, 2500 Michigan Ave., Chicago, Ill. 9-28

SELL—.250-300 Savage 99G, .22 Savage Sporter; .32 Colt automatic, English Clabrough engraved hammerless, green-head Mallards. Gordon Blake, Oakland, R. I. 9-28

WANTED—Sizer lubricator, powder measure, target pistol. TRADE—Snowshoes, bamboo bait rod, made to order. Erwin Bingham, Glenn Ellyn, Ill. 9-28

WANTED—S. & W. Russian target revolver, late model, blued, for .44 Russian cartridge. L. B. Reed, 20 North St., Plymouth, Mass. 9-28

SALE OR TRADE—S. & W. .22-32, perfect. WANT—.22 Colt or Reising auto., heavy .22 set-trigger target rifle; B. S. A. No. 12 or bolt-action .22. SELL—O'Hare 20-power scope, $10. Paul Neal, Greenleaf, Kans. 9-28

SELL OR TRADE—New Alexander Hamilton Institute Course, business methods, cost, $150. WANT—Winchester 52, Springfield .22, Remington 20-gauge pump, Noske or B. & M. scope and mounts, Zeiss binoculars; or what have you? C. S. Smart, Wells, Nev. 9-28

EXPERT GUN REPAIRING of all kinds—Restocking Springfields. A. F. Stoeger, Inc., 509 5th Ave., New York, N. Y. 9-28

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WANTED—Reising .22 automatic, 2 magazines, gun crank condition. Box 2234, Custom House, San Francisco, Calif. 9-28

FOR SALE — New .30-06 International Match heavy Springfield rifle, 30-inch barrel, adjustable palm rest, butt hook, double set triggers, special Lyman sights, weight 14 pounds, accuracy guaranteed, $100. Springfield Sporter, Italian-walnut stock by Owen, Lyman 48 rear, ramp front, sling, perfect condition, $75. Colt Woodsman, new condition, Patridge sights, extra set gold bead, Heizer lined holster, $27.50. Browning 12-gauge, 30-inch, ribbed barrel, full, perfect, $55. E. V. Menefee, Rising Sun, Ind. 9-28

WANTED—Krag ammunition. Communicate with Mr. Homer Sappington or Howard Beidler, Barnesville, Ga. 9-28

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WANTED—Paterson and Walker Colt revolvers, Colt dragoons, shoulder stocks and cylinder rifles. B. C. Smiley, Angola, Ind. 11-28

SELL—Winchester 1895 .30-06 carbine. Bore perfect, outside good, $30. Charles Spaulding, 1445 E. Main St., Rochester, N. Y. 9-28

TRADE—.32-20 Winchester rifle, 20-inch barrel, ivory front, Lyman receiver, rear perfect, for Luger 6-inch, perfect. D. Armbruster, Baraboo, Wis. 9-28

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SALE—.22-caliber, Model 56, Winchester, Lyman sight, perfect condition, delivered by mail, $17. Fred Roth, Twain, Calif. 9-28

FOR SALE—Parker 12-gauge double ejector, engraved, 28-inch barrels, full and modified, cost $123, take $50; .30-06 sporting Springfield by Howe, cost $183, take $60. Both guns in good condition, used very little. R. Mosteller, 845 Chafee Ave., Augusta, Ga. 9-28

FOR SALE—Three sealed cases .30-06 United States manufacture, $15 case. Colt .38 long double action, 4½-inch barrel, $12. WANT—Colt cap-and-ball .36 for .44 caliber. J. W. Mackey, Fonda, Iowa. 9-28

WANTED — Long-barreled 10-gauge, for extra heavy loads. Must be perfect. Repeater preferred. Give complete description and price. C. Alfred Bergsten, 3236 22nd Ave. S., Minneapolis, Minn. 9-28

WANTED—About one thousand old-issue Krag ammunition. E. T. Holloway, Central Point, Oreg. 9-28

WANTED—Colt S. A. Army revolvers in poor condition, any calibers, frames and action must be good. R. R. Enderly, Lead, S. Dak. 9-28

SALE—Smith & Wesson .44 Special target in factory grease Cost $43, sell $35. A. H. Sikes, Great Falls, Mont. 9-28

FOR SALE—.44 Russian 6½-inch barrel, blued, target sights, perfect condition, cylinder takes factory full charge, $35. Remington-Hepburn .38-55, fancy stock, barrel chambered by Niedner, shells and tools, $30. Morgan Van Matre, Union Trust Bldg., Cincinnati, Ohio. 9-28

SALE — Winchester B5 scope, good condition, $15.50, mount included. Plunger style Crosman, good condition, $5. R. B. Champlin, 330 Mt. Prospect Ave., Newark, N. J. 9-28

SALE—1.45 S. & W. Schofield, 6-inch blue, like new, $25. D. I. Zinik, 1020 17th St., Denver, Colo. 9-28

FOR SALE—Winchester .32 special pistol grip, Lyman sights complete, never shot, perfect condition, $50. Carl Scribner, Mt. Vernon, Ohio. 9-28

SELL—1917 S. & W. cylinder and yoke complete, chambered for .45 Colt cartridge, $4.50. W. Sager, Y. M. C. A., Appleton, Wis. 9-28

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